THIS WEEK'S National Petroleum NEWS

Index to Coming Meetings

Pennsylvania Grade Crude Oil Association, Wm. Penn Hotel, Pittsburgh, July 8.

Independent Oil Men's Association of New England: Wollaston, Mass., July 10; Fall River, Mass., Aug. 14; Providence, R. I., Sept. 11; Worcester, Mass., Oct. 9.

North American Gasoline Tax Conference, Book-Cadillac Hotel, Detroit, Mich., Aug. 7, 8, and 9.

American Petroleum Institute division of development and production engineering, Texas-Louisiana-Arkansas district, Galvez Hotel, Galveston, Tex., Sept. 5, 6.

Rocky Mountain Oil & Gas Association, Montana division, Calgary, Alta., Sept. 18, 19, 20.

National Safety Council, Petroleum Section, Congress Hotel, Chicago, Sept. 30 to Oct. 5.

International Petroleum Congress, Tulsa, Oct. 5 to 12.

Independent Oil Men of America, Stevens Hotel, Chicago, Oct. 21, 22, 23.

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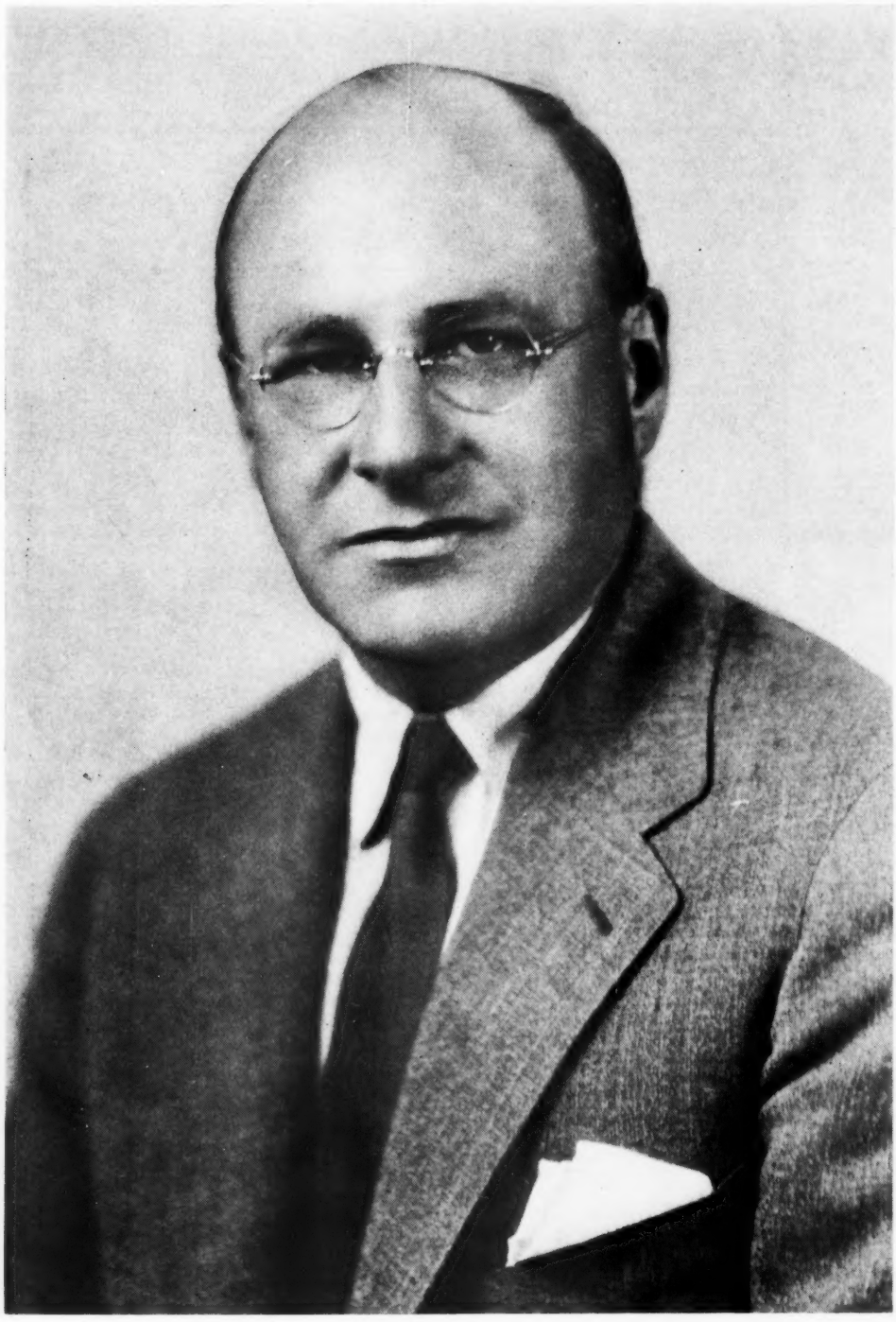

DAN. J. MORAN, president of the Marland Oil Co. the last eight months, is president of the Continental Oil Co. of Delaware, the corporation formed by the consolidation of the two companies.

As a boy he worked as a messenger in the offices of the Buckeye Pipe Line Co. at Lima, Ohio. He attended Case School of Applied Science, Cleveland, graduating an engineer in 1908.

He was chief engineer for The Texas Co. in the building of its Port Arthur refinery. He spent five years in Mexico for the same interests. He was their vice president in charge of production when he resigned to become president of Marland.

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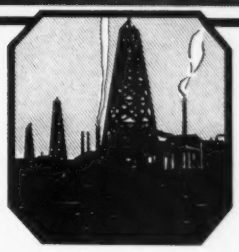

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Vol. 21 CLEVELAND, June 26 No. 26

One-Stop Stations

A Discussion of Probable Factors That Will Strive to Run Them

By Roger B. Stafford, N. P. N. Staff Writer

CLEVELAND, June 24

WHAT class will be the dominating element in the operation of one-stop service stations if the one-stop method of supplying the day-to-day needs of automobiles assumes the proportions the tire industry predicts it will?

Will the dominating element be the tire dealers as some tire manufacturers believe; the tire manufacturer controlled chain station; the oil company owned and operated stations; the oil company owned but leased stations; the stations of battery dealers or other accessory people, or some individual who can finance himself or who may believe so much in his merchandising ability that he can convince some interest other than the foregoing to finance him?

These are questions which rise in any consideration of development of the one-stop station idea which has been getting much attention in the last few months. The answers will be available only in the future.

What is being done will be considered here. What will be done, only the future can tell because the one-stop station is still in the evolutionary stage.

Only one tire manufacturer at present is going extensively into the building and financing of one-stop stations in conjunction with its dealers. That company is the Firestone Tire & Rubber Co.

There are other Akron manufacturers who own a few such stations or are interested in them more than just as a successful outlet for their tires, but except for Firestone the others say they have no definite station building policies. But they say they cannot foretell what policy they may have to adopt in the future. Virtually all are working in one way or another, except financing, to get many of their dealers into the one-stop or super-service station business.

Firestone is supplying 51 to 100 per cent of the finances needed to build, stock and put into operation the elegant service stations it is building with its dealers in many parts of the country, particularly in Florida. However, the stations that are 100 per cent financed by Firestone are not numerous enough to be considered a part of the company's policy, Harvey S. Firestone, Jr., said in Akron a few days ago. Each station is considered an individual case and how heavily the Firestone company invests in any station depends upon the dealer and the market.

Many rumors are afloat as to what Firestone intends to do. One of the latest rumors has been that Firestone will build a one-stop station in every 5000-car town in the United States. That rumor is unfounded in fact, Mr. Firestone said. There may be towns of many more than 5000 cars in which Firestone will not build stations because of the difficulty of getting a good site at a price or rental commensurate with good business practice, Mr. Firestone said. In other words if the site costs so much that a station on it cannot earn a fair profit on the investment it is passed by. It also may go into smaller than 5000-car towns. So far the company has not considered building a structure high enough to let upper stories carry part of the load of a costly site.

OTHER Akron tire manufacturers say they are not considering entering any program like the Firestone program, but most are giving the one-stop station much study. They are helping their dealers by making market surveys whose object is the location of one-stop stations, by supplying architectural advice and in some cases the plans, by having their engineers study the equipment required for a good one-stop station, besides supplying the usual advertising matter and dealer helps.

Miller Rubber Co. has several super-service stations which are operated under the name Instant Tire Service Co. The company's policy, according to L. C. Rockhill, vice-president in charge of sales, is to have its tires marketed by Independent dealers. As evidence of this Mr. Rockhill said his

Unified Management Is the Objective

AKRON, O., June 22

UNIFIED management is the great advantage of the one-stop or super-service station, said Harvey S. Firestone, Jr., vice-president of the Firestone Tire & Rubber Co. Each department is a component of an organization that has one mission, the servicing of automobiles.

"If departments of a super-station are sublet to different operators," Mr. Firestone added, "you just have several stores on one lot and the whole advantage of unified management is lost. The stores might just as well be on adjoining lots, because unless each department is working with each other department you cannot give the service the motorist expects."

company just recently sold a station it owned in Canton, O., to a dealer.

The Instant Tire Stations were among the first if not the first one-stop stations to be operated by any of the large tire manufacturers. They served, in a way, as experimental laboratories by means of which the Miller company developed its knowledge of retail tire marketing.

Other companies also have had one-stop stations which they have used as laboratories. Some of them have had to take over stations which the previous owners could not manage successfully.

W. D. Shilts, secretary of the Goodyear Tire & Rubber Co., was proud of several super-stations his company's dealers have built lately. But he said his company did not wish to go into the chain store business or to compete with the oil companies in jobbing gasoline and oil. However, Goodyear have a few stations.

Goodyear, he said, was primarily for the Independent tire dealer. The same thing was said at the B. F. Goodrich Co., which this month has been advertising to the tire trade in these words:

"The American public likes to do business with the 'boss'."

"Goodrich knows that an inherent strain of friendliness and a desire for personal service—cause the American public to prefer 'doing business with the boss.'

"Years of experience have proven that the aggressive independent tire dealer has a fundamental advantage over the stores guided only by absentee ownership. The alert independent merchant can succeed in direct proportion to the degrees to which he puts 'himself' into his business.

"The personal element of the independent 'owner manager' is reflected in sound merchandising and better service. The public is quick to respond to these factors.

"Therefore, Goodrich knows that the independent tire dealer will always be the backbone of successful tire distribution. Goodrich policies have always favored the independent tire dealer in the past. These policies will be continued in the future."

GOODRICH, however, is as anxious to get its dealers into the super-service station business as any of the other companies and is giving them all the assistance Firestone is except financial, according to one of its department heads recently.

The foregoing statements tell what the Big Four of Akron tire manufacturers are doing. Among the smaller but prominent manufacturers India Tire & Rubber Co., is selling only through independent dealers some of which operate one-stop stations. The same is true of General Tire & Rubber Co., which like India, manufactures a premium tire and consequently does not have to have the volume of sales required by the larger and more competitive manufacturers.

R. Edwin Spears

President, Spears & Riddle Co., Wheeling, W. Va., and retiring president of the West Virginia Oil Marketers Association, who says the oil industry and not the tire dealers or makers will dominate the growing one-stop service station field

These companies are pleased with the one-stop stations of their dealers but so far, they say, they are not financing those dealers in building the large service structures.

Considerable enthusiasm about one-stop stations is being worked up among tire dealers. The National Tire Dealers Association, which has headquarters in Akron, has created a super-service department and super-service will be the chief subject discussed at the association's convention Nov. 11 to 14 in the Sherman hotel, Chicago.

This association has a membership of 1700 tire dealers, many of whom are already in the super-service business.

The extent of the handling of gasoline and motor oils by tire dealers is shown by the federal census of tire dealers April 1, 1929. Of 80,000 tire dealers the bulk of the tire business was being done by 16,000 dealers, and 74 per cent of the dealers were selling gasoline and oil. It has been estimated by super-service sponsors that enough other services are performed or goods sold so that approximately 12,000 tire dealers today can classify as super-service dealers.

However, the establishments of many of these dealers are far from what one visualizes in any discussion of super-service stations. Often their gasoline and oil selling equipment may consist of a gasoline pump at the curb and two or three drums of oil. If operators of such a type of establishment do a good business the tire manufacturer probably will soon have them on the lists of likely prospects for a modern, attractive drive-in station.

It was estimated by Sherrill Leonard, associate editor of *India Rubber & Tire Review*, recently before the West Virginia Oil Marketers Association that tire dealers this year would sell a billion dollars' worth of gasoline and motor oils. The estimate when broken down gives some startling figures which our industry cannot reconcile with known facts.

TAKING gasoline at an average price of 22 cents a gallon over the year and oil at $1.20 a gallon and on a basis that oil sales average today only 3 per cent of gasoline sales, a billion dollars' worth would be 3,906,257,000 gallons of gasoline and 117,188,710 gallons of motor oils.

This volume of gasoline is approximately one-third of the total volume of gasoline that will be consumed in automobiles of all descriptions in the United States this year. Surely this new factor in gasoline and oil marketing has not grown to such proportions where it is moving half as much gasoline as all the oil company service stations, tank trucks and, in cases of some fleet owners, tank cars are moving.

Regardless of whatever gallonage will be moved by the super-service tire dealers' stations, the fact is indisputable that the tire dealers already have a good start in the business but they still are small factors in the distribution of our products.

The tire and battery business has been so closely linked that it is doubtful whether battery dealers should be considered separately in any discussion of the operation of super-service stations of the future.

Oil companies, particularly the large companies, have been reticent in getting into the one-stop service station business as it is now understood. Oil companies have built super-service stations but have been content themselves to operate only the gasoline, oil, lubrication and sometimes the washing departments. In most cases the oil companies have sublet their tire, battery and brake departments to other operators. A few have not.

The subletting proposition has been, some oil men say, because the oil companies were more anxious to keep the friendship of all tire and battery men who often are their tank wagon customers. There are cases in which oil companies handle tires successfully.

In Alabama there has been an arrangement by which the Pan American Petroleum & Transport Co.'s mar-

One-stop service of Russell Harp, Inc., Akron, O. Harp is a tire man who built this super-service enterprise a few years ago. It averages 30,000 gallons of gasoline a month and sells more gasoline of a certain brand than the company who makes the gasoline sells at its own station directly across the street. This station sells and repairs tires, sells and services batteries, aligns wheels, lubricates and launders cars. The station has no brake department

keting subsidiary has merchandised Miller tires at its stations and Miller dealers have sold Pan-Am gasoline and oils.

Independent oil marketing companies have sold tires more frequently than the large companies who, covering statewide territory or several states, have avoided any possibility of antagonizing a large number of tire men in their marketing territories. The attitude of these large companies has been similar to that of the majority of the Akron tire manufacturers, that is, that they are in the business of making and wholesaling certain products and not of retail selling. The oil companies, however, are extensively in the chain store business although those stores sell only gasoline, oils and greases.

MANY of the large companies at present have no intention of entering the super-service station business and, so far as can be learned, of financing any particular group of merchants, such as tire dealers or individual gasoline and oil station operators, in becoming operators of one-stop stations.

But, there are many Independent oil companies who are much interested in the one-stop station development. Officials of these companies believe that as gasoline and oil are the commodities which the motorist buys most frequently that the oil companies should be the ones to dominate the situation. In this school of thought is R. Edwin Spears, president, Spears & Riddle Co., Wheeling, W. Va., who told West Virginia Oil Marketers Association in Charleston June 14 that the oil companies will be the dominating element in the development of super-service stations. His assertion met the approval of many marketers of West Virginia who were present at the meeting.

IN CALIFORNIA oil companies have built both filling and super-service stations. Some companies, chiefly the Associated Oil Co., have leased them to other operators, often former employes who had shown ability.

What these large companies will do will depend largely on the course the tire dealer station development takes. The refining companies can still sell gasoline in wholesale lots to the tire dealer stations and maintain their own filling station chains because the demand for the convenient, community station.

"Mother doesn't drive three miles downtown to buy groceries when there is one down on the corner," one man said. "Although super-service stations are fine when we have a lot of jobs on the car we are still going to 'fill 'er up' in the evening a little ways from town rather than battle the traffic which made the location of the one-stop station *good* in the eyes of the merchandising and real estate experts."

Before the question of domination of the field can be settled it is probable there will be a lot of swapping of gallonage in localities where one-stop stations will grow, probably almost as thick as service stations were a few years ago.

Tire Men Ignore Lunch Stands

AKRON, O., June 22

RESTAURANTS are not included in tire manufacturers' ideas of super-service stations for automobiles. None of the plans developed by Akron tire manufacturers contain space for restaurants or lunch stands, a feature which some of the oil companies have incorporated in their lay-outs.

The tire manufacturers are considering only the needs of the automobiles and not the needs of their owners. The tire dealers' stations are usually centrally located where restaurants are at every hand. They are not being built in outlying districts like the districts in which some of the oil companies' stations are being built, or on main highways between cities.

The tire dealers' stations provide facilities for most or all of the following service: oil and gasoline; car lubrication; car washing; tire sales and repairs; battery sales and repair, wheel aligning; brake testing and relining; and sales of necessities like valve cores and caps, lamp bulbs, flashlight batteries, tire repair kits, and such.

Mr. Kaufman Goes Short on the Oil Industry

NEW YORK, June 22.—Herbert Kaufman, editorial writer for the Rochester, N. Y. Journal and other Hearst newspapers, writing of the Colorado Springs conference, says it was "really a committee of public safety" which met there.

"In a dozen years," Mr. Kaufman said, "at the present rate of depletion, the last drop of petroleum under the United States will have been sucked from the rocks and we shall become everlastingly at the mercy of neighbors for energy to drive cars, marine engines, internal combustion locomotives, essential munitions, ingredients—and more important than all—the lubricants without which not a lathe, a turbine, a tractor, a shaper, a drill, a triphammer, a mill or dynamo can operate at current overheads. The day we go bankrupt, we cease to be self-sufficient. From that moment commerce is under the guns of enemies and competitors. This is the hour of the wheel. Our independence is carried in oil cans. When they are empty we shall exist in the shadow of strangling blockades, decadence and impotence."

Texas Co. Official Is Transferred

LOS ANGELES, June 21.—Announcement was made today of the transfer of E. G. Walsh from the Los Angeles office to the Chicago office of The Texas Co.

Mr. Walsh has held the position of assistant manager of the Texaco domestic sales department of The Texas Co. From 1916 to 1926 he was affiliated with Standard Oil Co. of California, where he served in various capacities in the sales department.

In February 1926 Mr. Walsh became associated with the California Petroleum Corp. as district manager of the Long Beach office and later was made assistant director of sales. With the affiliation of the California Petroleum Corp. and The Texas Co. he became assistant manager of domestic sales.

May Gasoline Stocks Down 2,500,000 Barrels

NEW YORK, June 24.—Reduction of 927,000 barrels in pipe line and tank farm gross domestic crude stocks east of the Rockies was reported by the American Petroleum Institute for May, compared with a decrease of 91,000 barrels in April.

There was a net increase of 449,000 barrels in May of all refinery stocks, compared with a net increase of some 2,000,000 barrels in April.

Gasoline stocks decreased 2,451,000 barrels at refineries covering approximately 85 per cent of the operating capacity east of California. This compares with a decrease of 1,477,000 barrels in April, in the institute's preliminary figures.

Kerosene stocks increased 63,000 barrels east of California in May, compared with a decline of 244,000 barrels in April.

Gas and fuel oil stocks increased 1,840,000 barrels, compared with an increase of 3,733,000 barrels in April.

Lubricating oils decreased 178,000 barrels, which had decreased 235,000 barrels in April.

Refinery stocks of domestic crude oil increased 813,000 barrels, while foreign crude oil decreased 679,000 barrels. This compares with an increase of 389,000 barrels and 214,000 barrels respectively in April.

A. P. I. Eastern Division Officers Are Named

CLEVELAND, June 22.—E. L. Estabrook of the Pan-American Petroleum & Transit Co., New York, has been appointed chairman for the eastern district of the American Petroleum Institute division of development and production engineering.

J. French Robinson of the Peoples Natural Gas Co., Pittsburgh, is vice chairman for Pennsylvania and West Virginia. Gordon N. Campbell of the Swiss Oil Corp., Lexington, is vice chairman for Kentucky. John C. Askam of the Ohio Oil Co., Findlay, is vice chairman for Ohio, Illinois and Michigan. H. H. Hill of the Standard Development Co., New York, is secretary of the division.

Producer's Delegation Urges Tariff

(By Telegraph)

TULSA, Okla., June 24.—Several Independent producers and royalty owners arranged a conference with Gov. Holloway, of Oklahoma, for June 25 relative to the appointment by the governor of a delegation of five to go to Washington early in July to appear before the senate finance committee.

This conference is the outgrowth of a movement started when a joint telegram was sent to Senators Pine and Thomas last week asking them to call a conference in Washington in conjunction with congressional delegations from oil producing states at which oil producers, royalty and land owners would be asked to present their arguments on an oil tariff to the senate finance committee.

That request was made by Wirt Franklin, president of the newly formed Independent Petroleum Association of America; C. J. Wrightsman, chairman of the Independent Producers' tariff committee; Wade H. James, president and Guy H. Woodward, secretary of the Mid-Continent Royalty Owners Association; H. B. Fell, president of the Southern Oklahoma Oil & Gas Association; James G. Lyons and Ross D. Pine, of the Independent Oil & Gas Association of Okla. and W. H. Gray, of the National Association of Independent Oil Producers.

In reply the entire Oklahoma delegation in the house and senate favored such a meeting and suggested that operators meet with Oklahoma's governor and ask him to invite other governors to send five delegates from each state to Washington for the hearing, such delegates to be producers, and land owners. The Oklahoma congressional delegation said that such Washington conference, in addition to discussing the limitation of oil imports, should also consider the administration's policy of cancelling permits on public lands.

No date has been set for the Washington conference, but it is expected to be held the first week in July.

Pennsylvania Association to Meet

OIL CITY, Pa., June 21.—The sixth annual meeting of the Pennsylvania Grade Crude Oil Association will be held at the William Penn Hotel, Pittsburgh, July 8.

Advertising of Pennsylvania grade crude and the status of the Pennsylvania producer, will be the main subject of discussion, according to R. J. Alexander, secretary.

New Gas Analysis Method for Natural Gasoline Industry Is Perfected

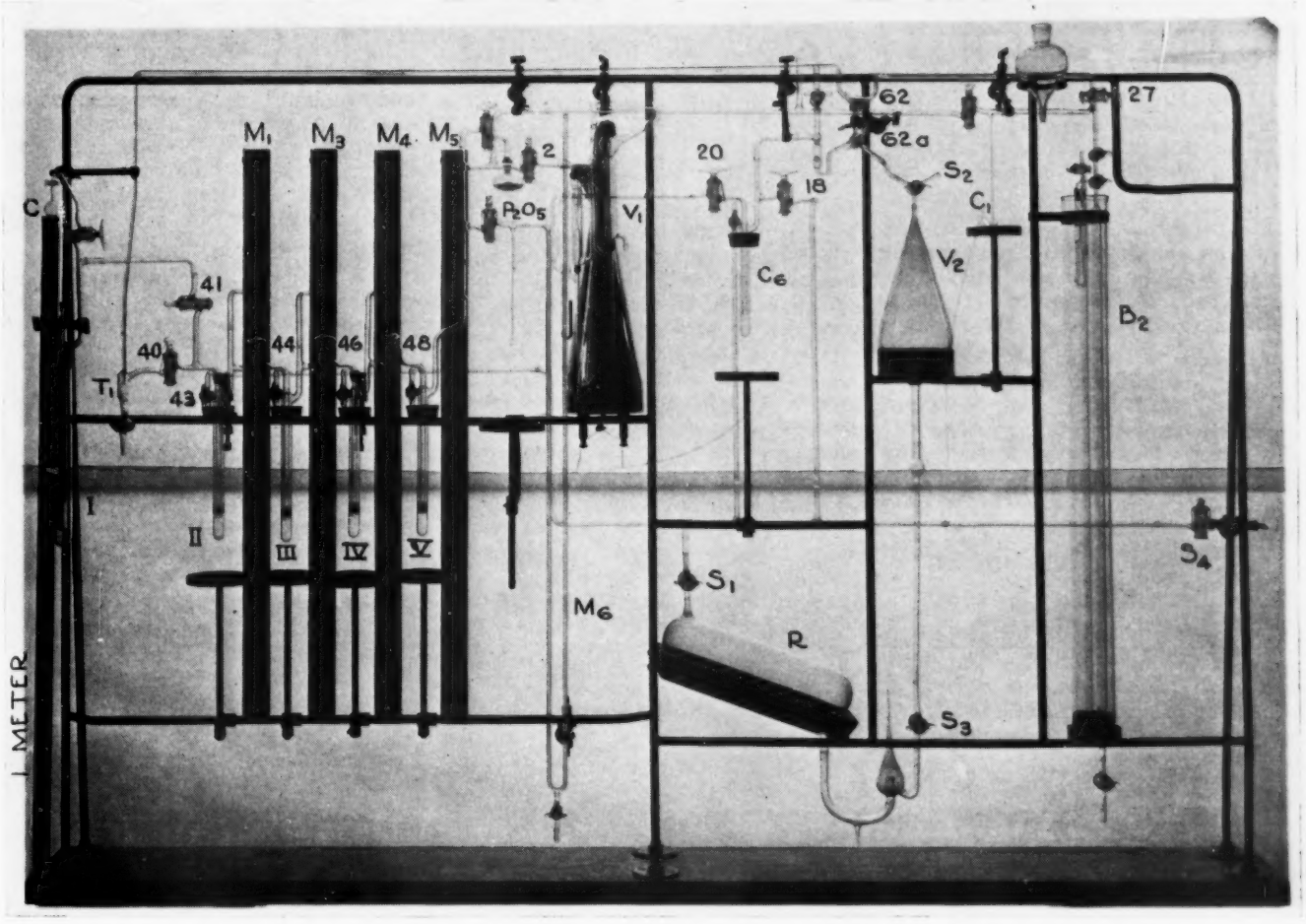


Fig. 1 Photograph of simplified apparatus for natural gas analysis as developed at the Bureau of Standards. Lettering corresponds with that given in diagrammatic drawing (Fig. 2)

WASHINGTON, June 20

A NEW laboratory method of gas analysis for the use of natural gasoline manufacturers in determining accurately the total valuable liquifiable content in any gas has been devised by the U. S. Bureau of Standards.

The method will be available for use in testing raw gas from a new field or for checking plant operations to determine extraction efficiency at any point in the manufacturing cycle.

Although just now announced publicly by Martin Shepherd, associate chemist of the bureau, the method has been used commercially. The Standard Oil Co. of New Jersey's laboratories have been equipped with the apparatus and a number of other commercial laboratories in the country have been using the method and have had men trained in the technique of operation.

By J. C. Chatfield
N. P. N. STAFF WRITER

Announcement of the new method comes at a time when the industry is thinking a great deal about the application of fundamental analysis to manufacturing operations. At the recent annual convention of the Natural Gasoline Association of America an entire section of the program was given over to a study of fundamental analysis as applied to absorption tower operation. An exhaustive paper by W. W. Robinson of the Texas Co. and others, brought out discussion which lasted for several hours.

Natural gasoline manufacturers are finding it increasingly necessary to scrutinize the efficiency of each step in their operations. Old methods of analysis are giving way to more accurate determinations since it has been found that modern extraction plants get much better yields than test methods indicate should be possible. If a gasoline plant yields 105 per cent of the raw gas test it is plain that there is something wrong with the test.

The need for accurate determinations of the volume of each fraction in a wet gas has become more important as the industry has turned to the production of by-products such as propane for bottled gas and butane for oil-gas enrichment and other purposes.

Plant design in new fields of the future undoubtedly will be more and more influenced by fractional gas analysis, the plant being built to fit the raw material available and not ordered according to a standard design, the only change being in size to fit the volume of gas available.

The design of rectifying columns particularly will be affected by the

characteristics of the gas to be treated. A gas with a large propane fraction will require a tower built differently than a gas with a narrow propane fraction and large quantities of pentane and heavier.

The Shepherd method is proposed as a standard reference test for the volume of natural gasoline of a predetermined vapor pressure in a wet gas. In other words the manufacturer may fix in advance the vapor pressure specification of the commercial gasoline he expects to produce and then use the test method to determine exactly how many gallons of this product is contained in the gas.

Field testing will not be possible with the apparatus. It must be set up in the laboratory and used there on gas samples brought from the field or from various parts of the plant.

Although operation of the apparatus is complicated it has been found that different workers can check results closely after proper training. Some men who have been trained at the Bureau of Standards have done acceptable work at the end of one week. Others require about a month's experience to become proficient.

The testing process involves fractional distillation of gases at low pressures and temperatures. The method is described as an "Isothermal Fractional Distillation."

Accuracy of the method is reported as being within 10 gallons per million cubic feet for the total natural gasoline content of a gas. The volume of a given fraction of the gas can be measured to 0.01 per cent. Measurements may be made in the apparatus with an accuracy of 0.001 milliliter.

The apparatus has been built up in two different forms. A simplified form has been made which is being used at a number of laboratories which are investigating natural gasoline and refining problems. This type of apparatus is pictured in an accompanying photograph. (Fig. 1).

A more complicated form of the apparatus is shown diagrammatically in Fig. 2. This form is recommended by Mr. Shepherd in case extended analysis work is to be done.

Essentially the apparatus consists of pumps for evacuating the system to low pressures and for gas transfer, burettes for measuring gas and liquid volumes, manometers for measuring vapor pressures, a rectifying column in which a temperature gradient may be maintained and a series of auxiliary distillation tubes for final fractionation to pure cuts. As auxiliaries liquid air containers and devices for measuring and controlling extremely low temperatures are provided.

For rectification a small column filled with copper balls for packing and equipped with a thermocouple has been devised. The column is wrapped with a nichrome heating element in a gradually opening helix which supplies the necessary temperature gradient when a small current is supplied.

The temperature gradient may be varied by changing the spacing of this element. The copper balls have been found effective in aiding refluxing. This column is used primarily for fractionating higher boiling point fractions in the gas. Necessary low temperatures are supplied by a liquid air bath around the column.

For separating low boiling point

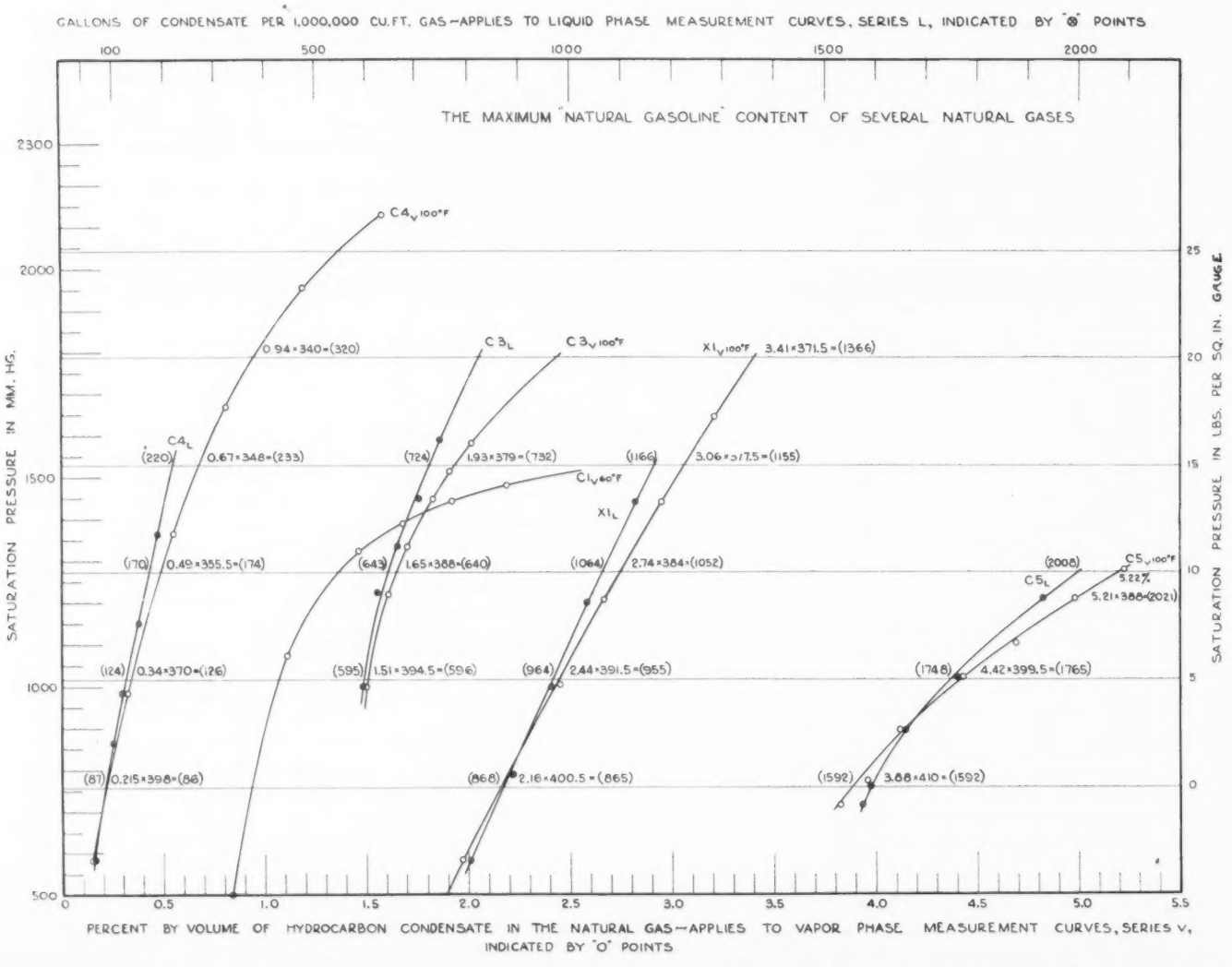


Fig. 3 Series of curves showing the maximum natural gasoline content of several natural gases

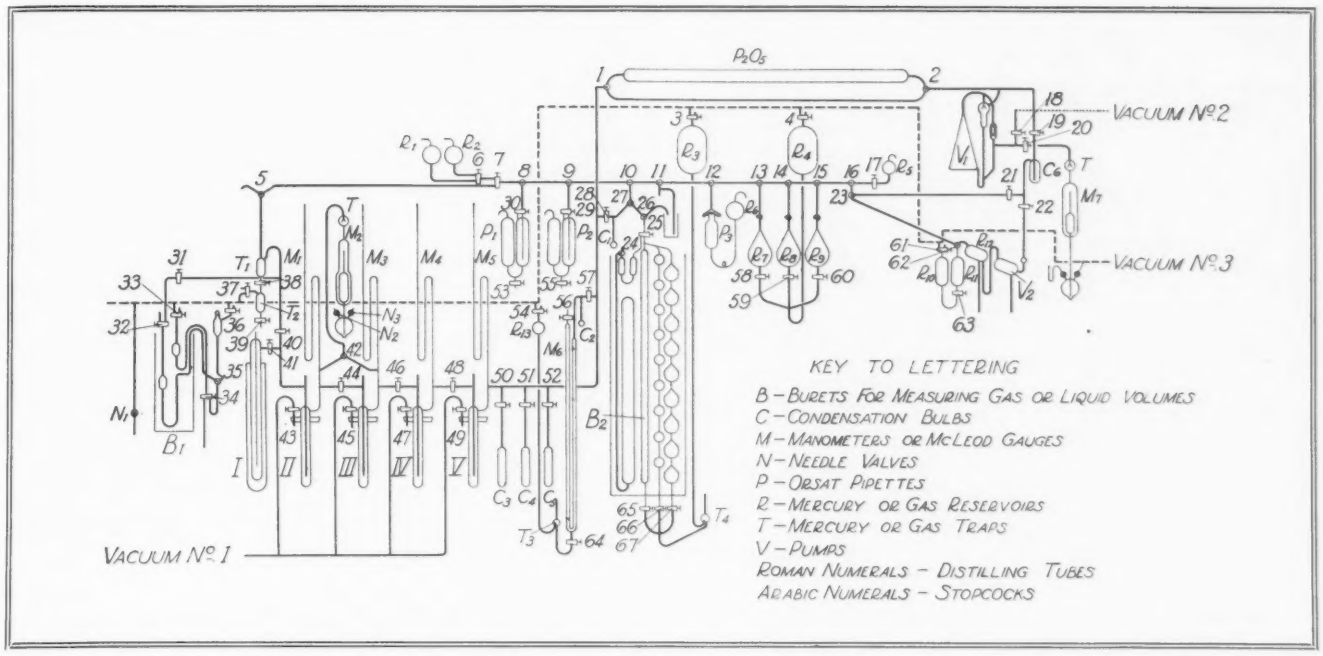

VACUUM Nº 1
VACUUM Nº 2
VACUUM Nº 3
KEY TO LETTERING
B – BURETS FOR MEASURING GAS OR LIQUID VOLUMES
C – CONDENSATION BULBS
M – MANOMETERS OR McLEOD GAUGES
N – NEEDLE VALVES
P – ORSAT PIPETTES
R – MERCURY OR GAS RESERVOIRS
T – MERCURY OR GAS TRAPS
V – PUMPS
ROMAN NUMERALS – DISTILLING TUBES
ARABIC NUMERALS – STOPCOCKS

Fig. 2 Diagrammatic drawing of complete gas analysis apparatus of the type recommended for detailed analysis and extended tests

fractions and making final cuts a series of plain distillation tubes are used. Each of these is equipped with a manometer for registering saturation pressures and a thermocouple. A cotton filter is used in the bottom of the tube to prevent mechanical carrying over of frozen particles.

Low temperatures are obtained by immersing the distillation tubes in a copper cylinder in which liquid air is allowed to evaporate at a slow rate. The cylinder is equipped with a thermocouple and is hung in a Dewar tube. Liquid air may be added during the course of tests, when necessary.

The distillation tubes may be controlled within one half degree of the temperature desired over a range of from minus 160 C. to minus 80 C.

Alternate condensation and vaporization, moving the vapor stream forward and the residue backward is accomplished by using the various tubes in the distillation train. At least three tubes are necessary and more may be added. Final cuts of pure fractions may be transferred to suitable reservoirs for future examination while other operations of a test are made.

IN ADDITION to the manometer connected with each tube the preferred apparatus embraces a special differential manometer for determining the purity of distillates. The vapor pressure of a distillate as indicated by the manometer connected to the distillation tube may be nearly identical with that of the pure hydrocarbon sought. But the distillate may actually contain small portions of other hydrocarbon fractions. It is for this reason that the differential manometer is added to the system.

If the purity of a sample is in question the liquid is subjected to distillation and the first five per cent is captured and placed in a bulb connected with one leg of the mercury sealed U tube. Subsequently the next 85 per cent of the sample is distilled over and stored. The last five per cent then is transferred to a bulb connected with the second leg of the manometer.

The vapor pressure exerted by the two parts of the distillate then is measured with micrometers accurate to 0.01 millimeter. Differentials in vapor pressures of the two samples determine whether additional distillations are required to obtain purity. Quantitative estimates of purity may be made if desired.

To conduct a test for the total valuable natural gasoline content of a gas sample the operator first evacuates the apparatus by means of a Topler pump. Care is taken to eliminate moisture from the system and pressures are brought down to 0.0001 millimeter of mercury or less, as shown on a McLeod gauge.

A 1 or 2-liter sample of gas is introduced into the distillation train and any nitrogen contained in it is removed with the aid of the Topler pump. The pump might be eliminated from the system if it were not for the necessity of nitrogen separation.

The first hydrocarbon fraction distilled includes gases such as methane, ethane and isobutane. This fraction is measured in the burette and stored.

The second cut consists of normal butane which is measured and stored in a reservoir in the system.

The third cut consists of pentane and higher boiling point fractions.

To determine the maximum natural gasoline content of a given vapor pressure measured quantities of the butane fraction are blended back with the third cut and changes in the vapor pressure observed.

THE quantity of natural gasoline of desired vapor pressure which is measured in the burette may be translated readily into gallons per million cubic feet of gas by the following equation:

$$G = \frac{N_1}{N_2} (7480)$$

Where G = gallons per million cubic feet,
N_1 = milliliters of condensate determined,
N_2 = liters of gas sample taken.

To conform with industry practice N_1 is measured at O C. and N_2 at 60 F., 30 inches of mercury.

At plants equipped with commercial rectifying columns capable of producing pure normal butane it would be possible to determine the valuable natural gasoline content of a gas by a single distillation. The pentane and heavier could be separated from the butane and lighter and measured quantities of pure butane from the commercial source added to the heavy cut to bring the vapor pressure up to the maximum desirable point.

The distillation operations are followed through the observation of

vapor pressures indicated on the manometers connected with each distillation tube. The final check on the purity of distillates is made with the differential manometer as explained previously.

It will be clear from the sketchy description given here of the apparatus and test procedure that, with the aid of liquid air temperatures and extended distillations, it will be possible to make any desired examination of a gas of unknown composition. It will be possible to fractionate, isolate and measure the volume of any hydrocarbon in the gas.

In plant operation it will be possible to withdraw samples from any plate of a rectifying column for test. Residue gas, raw gas or gas from any point in the absorber tower might be withdrawn and examined to determine optimum operating conditions.

It is not necessary in the operation of the test method to make all measurements of fractions in the liquid phase. While the liquid measurement is reported to be more accurate, the vapor phase calculations to terms of gallons per million cubic feet are said to be sufficiently accurate for most engineering needs of natural gasoline manufacturers.

Fig. 3 is a chart illustrating the maximum gasoline content of several natural gases calculated by tests in both the vapor phase and by adding the extra step of condensation. The gases run from lean to those with large percentages of pentane and heavier.

Curves marked with the subscript L with points shown by crossed circles are those obtained by liquid phase examinations. Those with the subscript V with points shown by open circles are those obtained by vapor phase measurements.

A conversion factor has been worked out by means of which the per cent by volume of hydrocarbon condensate in gas may be calculated to gallons of gasoline per million cubic feet.

A 63-page paper describing the apparatus, procedure and results of the new method written by Mr. Shepherd is published in the June issue of the Bureau of Standards Journal of Research. Reprints of the paper are being prepared by the U. S. Government Printing Office for sale at a nominal price. The paper was written in such detail as to serve as a hand-book to the laboratory worker desiring to construct and operate the apparatus.

Gasoline Consumption 12% Greater Than 1928

NEW YORK, June 22.—Daily average gasoline consumption gained 10.3 per cent in 38 states in April, compared with March, according to tax returns from wholesalers and dealers to the American Petroleum Institute.

Total consumption in April was 646,866,000 gallons, compared with 545,076,000 gallons in April, 1928, a gain of 101,790,000 gallons, or 18.7 per cent. Daily average in April this year was 21,562,000 gallons, compared with daily average of 19,550,000 in March.

Gasoline consumption in these states for the four months ended April this year totaled 2,207,425,000 gallons, a gain of 221,054,000 gallons or 12 per cent, over the corresponding period of 1928.

Gasoline consumption figures for April, March and February of this year, compared with last year, are given in the table below.

	Month of				% Change	4 Months ending with—		% Change
	Feb., 1929 Gallons	March, 1929 Gallons	April, 1929 Gallons	April, 1928 Gallons	Over April, 1928	April, 1929 Gallons	April, 1928 Gallons	Over 1928
Alabama	12,600,000	13,363,000	15,329,000	11,586,000	+32.30	53,690,000	49,414,000	+ 8.65
Arizona	4,720,000	5,154,000	5,262,000	3,968,000	+32.61	19,831,000	15,262,000	+29.94
Arkansas	7,115,000	8,335,000	10,545,000	7,754,000	+35.99	36,701,000	33,445,000	+ 9.74
Colorado	8,502,000	13,684,000	15,537,000	10,734,000	+44.75	47,579,000	40,095,000	+18.67
Delaware	1,306,000	2,598,000	2,631,000	1,961,000	+34.17	8,454,000	6,603,000	+28.03
District of Columbia	.....	5,542,000	6,036,000	5,197,000	+16.14	21,069,000	18,638,000	+13.04
Florida	20,599,000	22,385,000	19,835,000	18,716,000	+ 5.98	83,341,000	83,244,000	+ 0.12
Georgia	14,109,000	16,788,000	18,130,000	15,647,000	+15.87	64,732,000	61,867,000	+ 4.63
Idaho	.....	2,857,000	3,872,000	3,551,000	+ 9.04	10,859,000	10,832,000	+ 0.25
Indiana	23,874,000	37,608,000	37,148,000	30,609,000	+21.36	122,370,000	105,257,000	+16.26
Iowa	16,197,000	20,129,000	26,718,000	21,939,000	+21.78	83,464,000	85,242,000	— 2.09
Kansas	18,240,000	27,516,000	26,921,000	23,130,000	+16.39	92,667,000	84,229,000	+10.02
Kentucky	7,954,000	10,700,000	12,513,000	10,449,000	+19.75	40,094,000	34,909,000	+14.85
Louisiana	10,737,000	13,319,000	15,573,000	13,236,000	+17.66	51,883,000	51,297,000	+ 1.14
Maine	3,082,000	3,863,000	4,870,000	3,738,000	+30.28	14,853,000	12,310,000	+20.66
Michigan	39,173,000	*73,729,000	48,991,000	52,566,000	— 6.80	204,720,000	160,186,000	+27.80
Minnesota	13,577,000	23,176,000	29,886,000	23,390,000	+27.77	85,608,000	78,907,000	+ 8.49
Missouri	21,861,000	27,751,000	31,359,000	27,606,000	+13.59	105,524,000	101,430,000	+ 4.04
Nebraska	12,644,000	18,647,000	18,427,000	15,803,000	+16.60	64,853,000	59,644,000	+ 8.73
Nevada	915,000	1,222,000	1,193,000	1,077,000	+10.77	4,271,000	3,627,000	+17.75
New Hampshire	2,248,000	2,597,000	3,576,000	2,750,000	+30.04	10,660,000	8,678,000	+22.84
New Jersey	30,322,000	33,722,000	37,657,000	29,473,000	+27.77	130,017,000	113,635,000	+14.42
New Mexico	2,693,000	3,042,000	3,712,000	2,851,000	+30.20	12,261,000	10,213,000	+20.05
North Carolina	20,891,000	18,474,000	17,957,000	16,905,000	+ 6.22	80,004,000	74,325,000	+ 7.65
North Dakota	3,500,000	6,319,000	15,538,000	11,030,000	+40.87	30,265,000	26,180,000	+15.60
Oklahoma	17,885,000	23,595,000	25,638,000	21,094,000	+21.54	89,677,000	80,363,000	+11.59
Oregon	8,880,000	11,464,000	11,502,000	10,054,000	+14.40	40,740,000	36,525,000	+11.54
Rhode Island	4,592,000	5,435,000	6,393,000	4,782,000	+33.69	20,754,000	17,393,000	+19.32
South Carolina	7,607,000	9,364,000	9,983,000	8,690,000	+14.88	35,205,000	33,496,000	+ 5.10
South Dakota	7,583,000	7,156,000	10,889,000	8,858,000	+22.93	32,115,000	28,724,000	+11.81
Tennessee	10,498,000	13,115,000	15,406,000	13,548,000	+13.71	52,206,000	47,034,000	+11.00
Texas	47,239,000	59,521,000	63,243,000	49,737,000	+27.15	223,997,000	197,328,000	+13.52
Utah	2,654,000	3,691,000	4,381,000	3,436,000	+27.50	13,836,000	12,767,000	+ 8.37
Vermont	.....	2,238,000	1,957,000	1,549,000	+26.34	7,480,000	5,460,000	+37.00
Virginia	11,250,000	14,440,000	17,242,000	14,414,000	+19.62	55,388,000	49,467,000	+11.97
Washington	13,773,000	19,664,000	19,402,000	17,363,000	+11.74	67,261,000	60,856,000	+10.52
Wisconsin	14,974,000	21,432,000	29,654,000	23,799,000	+24.60	81,719,000	80,150,000	+ 1.96
Wyoming	1,464,000	2,421,000	1,780,000	2,086,000	—14.67	7,277,000	7,339,000	— 0.84
Total	445,258,000	606,056,000	646,866,000	545,076,000	+18.67	2,207,425,000	1,986,371,000	+11.13
Daily Average	15,902,000	19,550,000	21,562,000	18,169,000	+18.67	18,395,000	16,416,000	+12.06
Increase over previous year:								
Amount of increase	.....	.....	101,790,000	.....		221,054,000	.....	.....
Percentage increase in daily average	.....	.....	18.7%	.....		12.0%	.....	.....
Massachusetts	.....	32,467,000	38,361,000	.....		124,383,000	.....	.....

*During March a tax was collected on 19,167,000 gallons of gasoline held in storage at bulk terminals. This accounts for the abnormal increase over February consumption.

Van Deinse Withdraws As California Umpire

(By Telegraph)

LOS ANGELES, June 24.—Voluntary proration ended today in California according to an announcement by F. C. Van Deinse on his retirement as umpire.

In announcing discontinuance of the voluntary conservation methods the umpire described his action as being taken in view of the early administration of the recently enacted state law prohibiting unreasonable waste of gas. All operators are released from compliance with general orders which have been issued from his office, Mr. Van Deinse said.

While not acting as umpire any longer he will continue to serve the industry in the formulation of plans for handling surplus gas so that when the bill goes into effect on Aug. 18, there will be a minimum of disturbance. The statement made by Mr. Van Deinse urges operators to submit suggestions and ideas relative to the best method of meeting the situation.

A detailed appraisal of what the California gas law means to our industry written by Prof. Lester C. Uren of the University of California, will be found in this issue beginning on page 55. The article is accompanied by a statement by Gov. C. C. Young of that state.

Marland - Continental Merger Completed

NEW YORK, June 22.—Following approval of terms of consolidation of the Marland Oil Co. and the Continental Oil Co. of Maine, which company was the consolidation of the old Standard subsidiary bearing that name and the Mutual Oil Co., the name of the Marland Oil Co. has been changed to the Continental Oil Co. of Delaware, thus completing the merger.

The following men were elected to the board of the new company: George Whitney and Thomas S. Lamont, J. P. Morgan & Co.; W. C. Potter, president, Guaranty Trust Co. of New York; Arthur B. Lawrence, F. S. Smithers & Co., a New York banking house; Dan J. Moran, president of Marland; Fred Searles, Jr., and Charles F. Ayer, Newmont Mining Co., a large stockholder in the Continental; E. T. Wilson, S. H. Keoughan and W. H. Ferguson, officers of the old Continental; E. N. Potter, Alfred Brunker, and Vernon Taylor, directors of Marland; W. W. Bruce, vice-president of Marland, and Carl H. Pforzheimer, Carl H. Pforzheimer & Co., specialist in Standard Oil securities.

The executive committee consists of Messrs. Whitney, W. C. Potter, Keoughan, Wilson, Moran, Lawrence and Searles.

Officers elected are: E. T. Wilson, chairman, S. H. Keoughan, chairman of executive committee; D. J. Moran, president; W. H. Ferguson, vice-president; W. W. Bruce, vice-president and secretary; Walter Miller, vice-president in charge of manufacturing; E. J. Nicklos, vice-president in charge of production; E. S. Karstedt, vice-president in charge of sales; C. H. Markham, comptroller, G. F. Smith, treasurer and James J. Cosgrove, general counsel.

The consolidation of Marland and Continental was accomplished by an exchange of Marland stock for that of the Continental company. At a special meeting this week Marland stockholders approved an increase in the capital shares of the Marland Oil Co. from 2,400,000 to 6,000,000 to accomplish the merger. The name of Marland was then changed to Continental.

General sales offices of the consolidated company will be maintained at Denver. Mr. Wilson and Mr. Keoughan will make their headquarters there as they have in the past.

General producing, refining and accounting offices will be located at Ponca City, former general offices of the Marland companies. Mr. Moran will remain in Ponca City.

Patent Club to Appeal Case To U. S. Supreme Court

CLEVELAND, June 24

APPEAL to the United States Supreme Court will be taken by the four members of the Patent Club who were primary defendants in the patent suit brought by the government in 1924 and recently decided against the defendants by the United States district court at Chicago.

These defendants are: The Texas Co., Standard Oil Co. of Indiana, Standard Oil Co. of New Jersey and Gasoline Products Co. (Cross).

The opinion of the district court, which was published on page 37 of the June 19 issue of NATIONAL PETROLEUM NEWS, held that while patents on various phases of cracking owned by the defendant companies were valid, they were improvement and not basic patents and further, that the agreements made among themselves by members of the Patent Club in connection with licensing the use of the various cracking processes controlled by them, were contrary to public policy.

The decision to carry the case on appeal to the highest court in the land was arrived at in a meeting of the representatives of the four companies in New York June 20.

It is understood that the appeals will be taken by each company individually and not as a joint action. The decree of the trial court has not yet been formally entered but it is expected to be within a short time and it is planned, according to information, that the appeal papers will be filed immediately thereafter.

It is likely that the appeal will not come to hearing for several months, as the supreme court does not sit in the summer time but it is believed that the court will give the patent appeal precedence over many other cases because of its great importance.

Men reported as attending the meeting June 20 are: The Texas Co., C. B. Ames, vice president; H. T. Kline, general counsel and T. J. Dearborn, patent counsel; Standard of Indiana, L. L. Stephens, general counsel; Russel Wiles, patent counsel; Robert E. Wilson, assistant to the vice president in charge of manufacturing and G. K. Brown, patent counsel; Standard of New Jersey; John W. Davis, Chester O. Swayne, general counsel; Gasoline Products Co., Hoguet, Neary & Co., patent counsel.

Important Wilcox Well Near Allen Pool

(By Telegraph)

TULSA, June 25.—Starting with an initial production of more than 200 barrels an hour the Sinclair Oil and Gas Co.'s No. 2 Davis SW NW SE of 7-6N-8E is attracting attention to the area northwest of the Allen pool. It is the first important Wilcox production in this area.

Top of the sand is reported at 4474 with the total depth approximately 4478. The measurements are considered to be about 300 feet deeper than actual due to the crookedness of the hole. The No. 1 well on the same lease is producing from the Viola lime, the Simpson sand and the top of the Wilcox. It had an initial production of 1000 barrels per day.

Dexheimer Stations Sold

CLEVELAND, June 22.—Twelve filling stations, owned and operated by the Dexheimer Oil Co., Springfield, Ill., have been purchased by the Sinclair Refining Co. Possession was given on June 15.

New Fields in New Mexico Indicated By Present Wildcatting

HOUSTON, June 21

By Paul Wagner
N. P. N. STAFF WRITER

ARDUOUS wildcatting for oil in Lea county, New Mexico, the last three years, has been equalled only by parallel problems of transportation to make it possible.

Results obtained from testing operations, costing more than $5,000,000 for equipment and labor alone, have also been somewhat hopeful but not yet profitable.

One finally gets to his destination in Lea county, which is untouched by any railroad, by persistently nosing through sand dunes, dodging natural obstacles and overcoming distances. The county is approximately 110 miles from north to south and nearly 40 miles from east to west.

So much for surface conditions, which are unfriendly to geologists and but slightly more kind to travelers. A windmill, a ranch house, or now an oil derrick, will form a guide post for motorists; surface geologists must content themselves with crumbs, or go without data.

The sub-surface geologist has the advantage, however, of data gained from the drilling of some 70-odd test wells in Lea county. Many of these have found oil shows and still a larger number have produced high pressure gas from lime pays correlated with the prolific horizons found in the Winkler county, Texas, producing territory to the south.

Almost a dozen Lea county wells drilled since the Maljamar Oil & Gas Co.'s Baish discovery, in 21-17S-32E, three years ago, have made quantities of oil from 20 to 1200 barrels, initial production. Only three have exceeded 200 barrels initial production, however, and all have declined rapidly.

The three best wells in the county have been, respectively, The Texas Co.'s No. 1 Beulah Lynch, in 34-20S-34E, which made maximum production of 1200 barrels daily at 3731 feet; Midwest Refining Co.'s No. 1 State-Hobbs, 9-19S-38E, initial production 850 barrels at 4050-4195 feet; and the Skelly Oil Co.'s No. 1 Joyner, 26-25S-36E, good for 810 barrels daily maximum at 3340 feet.

Lea county oil wells and gassers drilled in proximity to them on the sub-surface lime ridge extending northerly out of Winkler county, Texas, have provided the guideposts for future prospecting and the expenditures on development that will be required.

Like the traveler, winding along trails and through sand dunes to reach a destination in Lea county, the wildcatter appears now to have an idea where he is going; but the road is far from clear.

Hope continues, however, that the future will bring its reward in the discovery of one or more pools along the sub-surface lime ridge, or parallel wrinkles, comparable to the prolific Winkler territory.

Although Lea county oil was first found on the Baish permit land of the Maljamar interests, in the northwestern part of the general area, it was the Rhodes gasser of The Texas Co., in 22-26S-37E, which started wildcatting northerly into Lea county from the Winkler, Texas, territory.

The Rhodes well, which made 23,000,000 cubic feet of gas and about 120 barrels daily of high gravity condensate, initially, was a guidepost for the extension of the lime ridge in Winkler county. There resulted then, more than two years and a half ago, the efforts to discover Lea county's prolific area, if and where it exists.

Until recently, equipment moved into the territory required to be hauled overland a minimum of sixty miles in any direction. Except from the south, a similar condition remains effective. A spur line of the Texas & Pacific, known as the Texas & New Mexico railroad, now penetrates to the Scarborough area in northern Winkler county, terminating at a new town called Cheyenne. There materials may be unloaded for transfer from 20 miles, or as far as you wish, overland into Lea county. It is proposed to extend the line eventually to Lovington, N. M., tapping the heart of the present prospecting area.

The primary expense of testing southeastern New Mexico is, of course, the transportation item. Thereafter comes camp facilities and then the actual drilling expense. Few test wells in the area have been put down to the average depth of more than 4000 feet for less than $50,000; many have cost $100,000. Consolidating all proper charges a fair average would be $75,000. The figures given are intended to include all costs except for leaseholds, land department work and geology.

That total figures given are conservative may be found by reference to drilling costs. It is customary for contractors to take turnkey jobs at $10 to $12 a foot.

Although gas found in Lea county generally tests high in hydrogen sulfide content, similar to that found elsewhere in the Permian salt basin region, a few wells yield a "sweet" product. The "sweet" gas is marketed to the El Paso Natural Gas Co., which recently completed a pipeline out of the area, at four cents a thousand cubic feet at the well; the sulfur gas, which requires to be treated to make it merchantable, takes a price of three cents.

Oil pipelines serving the territory are extensions from Winkler county, Texas, of the systems operated by the Humble and The Texas pipeline companies. The Humble is now connected to the Skelly Oil Co.'s Joyner well and other small completions in the territory with an 8-inch outlet. The Texas Pipeline Co.'s extension from Winkler county to the Jal area is a 10-inch line.

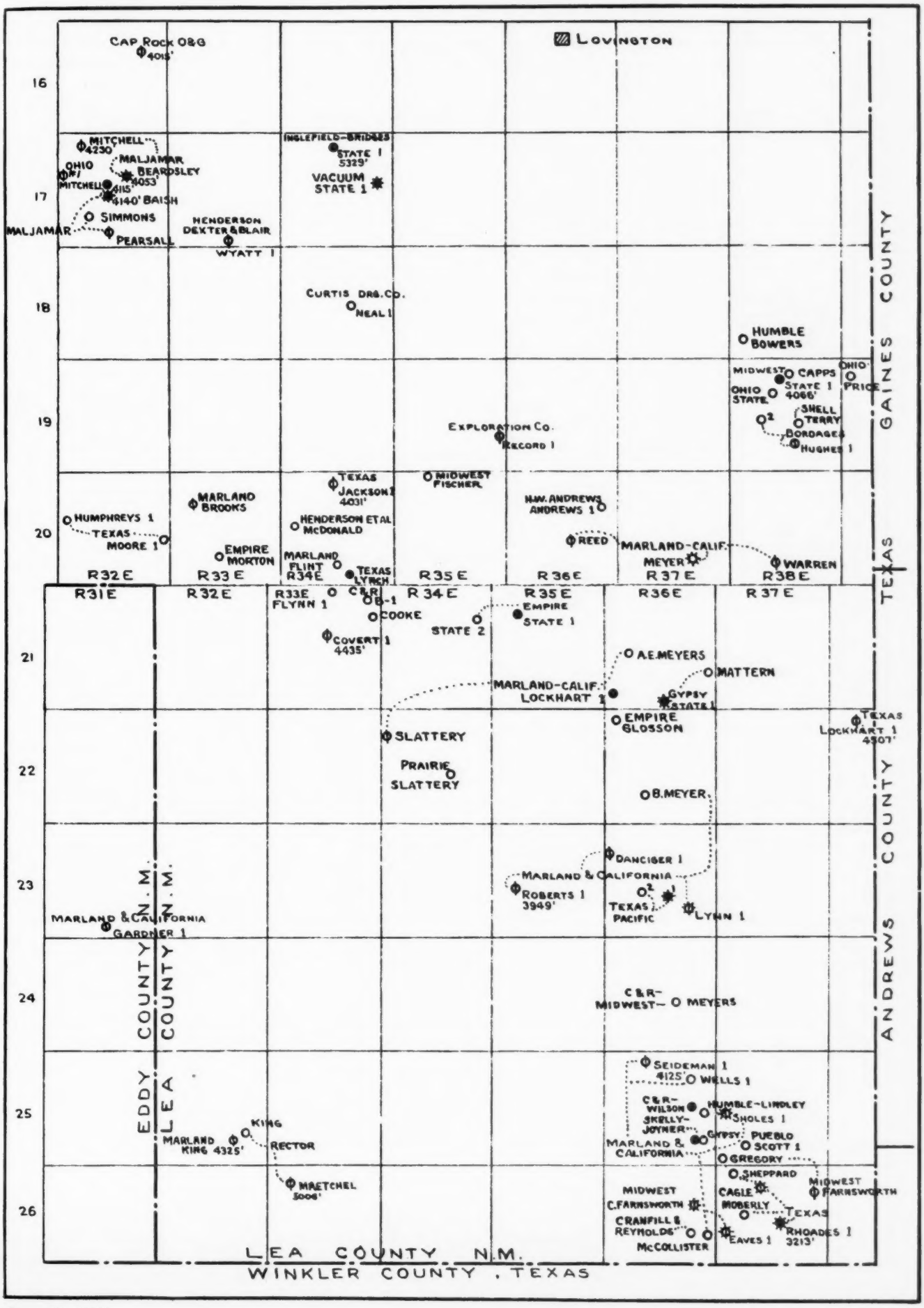
An accompanying table of field operations, showing results obtained by drilling, is self-explanatory.

Data on Oil and Gas Wells Drilled in Lea Co., N. M.

Company - Well	Location	Surface Elev., Feet	Top Salt, Feet	Bottom Salt, Feet	Top Lime, Feet	Gas Pay, Feet	Oil Pay, Feet	Total Depth, Feet	Remarks
Hazel Wolf Andrews									
Andrews Permit	12-20S-36E	....	....	....	....	....	....	....	Location
Cecil Bordages et al									
Hughes 1	27-19S-38E	3614	1660	....	....	3060-3110	4002-4007	4012	Shut down; 200 ft. OIH
Hughes 2	20-19S-38E	....	....	....	....	....	....	....	Location

(*Continued on Page* 38)

Map of the Lea County, New Mexico, district where a determined wildcatting program has been carried on



Data on Oil and Gas Wells Drilled in Lea Co., N. M.

(*Continued from Page 36*)

Company - Well	Location	Surface Elev., Feet	Top Salt, Feet	Bottom Salt, Feet	Top Lime, Feet	Gas Pay, Feet	Oil Pay, Feet	Total Depth, Feet	Remarks
Buell & Hagan									
State 1	33-11S-35E	4144	....	....	....	....	....	....	Drilling, 1560'
J. D. Cooke									
State 1	12-21S-33E	....	....	....	....	....	....	....	Drilling, 350'
Cranfill & Reynolds									
Wilson 1	23-25S-36E	3073	1135	2985	3017	3350-3355	3405	3425	156 Bbls., I. P.
Meyers 1	22-24S-36E	3337	1312	....	....	....	....	....	Drilling Salt, 2300
State 1-B	2-21S-33E	3783	....	....	....	....	....	....	Drilling, 680'
State 1	23-26S-36E	2918	1835	....	3083	....	....	3500	Abandoned
Empire Gas & Fuel Co.									
State 1-B	8-21S-35E	3640	1865	....	3780	....	3826-3835	3835	85 Bbls., I. P.
State 2-B	8-21S-35E	3656	1925	3180	3840	....	....	4001	Sulfur Water
Glosson 1	6-22S-36E	3568	1640	....	....	....	....	....	Drilling Salt, 2030'
Morton 1	28-20S-33E	3602	1435	....	....	....	....	....	Drilling Salt, 2610'
State 1-C	12-21S-34E	3714	1830	4163	....	....	....	4194	Abandoned
Flynn, Welsh & Yates									
State 1	3-21S-33E	....	....	....	....	....	....	....	Location
Curtis Drilling Co.									
Stovall-Neal 1	22-18S-34E	4046	....	....	....	....	....	....	Shut down
Caprock Oil & Gas Co.									
Levers State 1	11-16S-32E	4225	1011	....	....	....	....	4915	Abandoned
Covert et al									
State 1	15-21S-33E	3860	1190	3860	....	....	....	4434	Abandoned
Gypsy Oil Co.									
Humphreys 1	25-25S-36E	....	1100	....	....	....	....	....	Drilling, 1950'
Mattern 1	24-21S-36E	3520	1385	2510	2970	3012-3030 3580	....	....	Fishing, 3580'
State 1	34-21S-36E	3562	1625	...	3071	3218-3543	....	3951	20,000,000 Cu. Ft.
Henderson & Dexter									
McDonald 1	18-20S-34E	3631	....	3140	3163	....	3522-3525	3612	Plugged back. Pumps 65 bbls., daily
Wyatt 1	34-17S-33E	4052	1580	....	....	....	....	5367	Abandoned
Humble Oil & Refining Co.									
Bowers 1	30-18S-38E	....	....	....	....	....	....	....	Drilling, 100'
Lindley 1	23-25S-36E	....	....	....	....	....	....	....	Drilling, 300'
Holmes & Huey									
State	18-12S-35E	4131	....	....	....	....	....	....	Location
Marland Production Co. (Now Continental) and California Co.									
Lockhart 1	31-21S-36E	3628	1705	3250	3310	3805-3811	3885-3889	3889	265 Bbls. oil daily
E. J. Wells 1	11-26S-36E	....	1140	....	....	....	....	....	Casing set, 1200'
McCollister 1	24-26S-36E	....	....	....	....	....	....	....	Shut down, 830'
Bill Meyer 1	28-22S-36E	....	....	....	....	....	....	....	Rig up
A. E. Myers 1	17-21S-36E	3508	....	....	....	....	....	....	Rig up
H. A. Flint 1	28-20S-34E	....	....	....	....	....	....	....	Drilling, 1630'
J. S. Eaves 1	19-26S-37E	2960	1173	....	2610	2908-3002	....	3002	103,000,000 Cu. Ft.
Lynn 1	26-23S-36E	3344	1450	....	2790	3007-3650	....	3930	25,000,000 Cu. Ft.
S. Meyer 1	26-20S-37E	3508	1365	....	3600	3540-3838	....	3915	1,500,000 Cu. Ft.
M. F. Sholes 1	19-25S-37E	3067	1170	....	2584	2550-3030	....	3030	43,000,000 Cu. Ft.
Brooks 1	8-20S-33E	3535	1735	....	2915	....	....	4003	Abandoned
Danciger 1	7-23S-32E	3470	2010	....	3575	....	....	4040	Abandoned
King 1	26-25S-32E	3421	1062	....	....	....	....	4325	Abandoned
J. L. Reed	22-20S-36E	3598	1645	....	4254	....	....	4420	Abandoned
W. L. Roberts	20-23S-36E	3410	1775	....	3842	....	....	3949	Abandoned
Siedeman	4-25S-36E	3190	1470	....	3495	....	....	4125	Sulfur water
Slattery 1	7-22S-34E	3519	1760	....	3650	....	....	4155	Abandoned
Warren	28-20S-38E	3528	1500	....	4100	....	....	4215	Abandoned
Midwest Refining Co.									
W. S. Capps 1	3-19S-38E	3602	1640	2630	....	....	....	....	Drilling, 2790'
Fischer 1	5-20S-35E	3687	....	....	....	....	....	....	Set Casing, 504'
Gregory 1 (22)	31-25S-37E	2988	1110	2670	2710	....	2860-2865 (Show)		Drilling, 2865'
Hughes 1	1-23S-37E	....	....	....	....	....	....	....	Location
C. Farnsworth 1	13-26S-36E	2949	1135	....	2710	2915-3127	....	3127	40,000,000 Cu. Ft.
A. Farnsworth 1	12-26S-37E	3013	1065	....	2900	....	....	4110	Abandoned
Hobbs—State 1	9-19S-38E	3707	1625	....	....	....	4050-4195	4245	850 bbls., I. P.
A. D. Morton									
State 1	32-11S-38E	3760	....	....	....	....	....	....	Fishing, 1700'
Inglefield-Bridges									
State 1	4-17S-34E	4095	1806	....	....	....	....	5329	Abandoned
Maljamar Oil & Gas Co.									
Baish 1	21-17S-32E	3988	950	....	3590	....	3920-4124	4140	100 bbls., I. P.
Beardsley 1	15-17S-32E	4054	1172	....	2765	....	3880-3895	4335	10 bbls., I. P.
Mitchell 1	5-17S-32E	4046	945	....	3525	....	4095-4111	4230	90 bbls., I. P.
State 1	16-17S-32E	4002	945	....	3545	....	3600-3610	4115	95 bbls., I. P.
Pearsall	33-17S-32E	3944	1092	....	3660	....	....	4339	Abandoned
Simmons	29-17S-32E	....	....	....	....	....	....	....	Location
Ohio Oil Co.									
Mitchell 1	18-17S-32E	3930	905	....	....	....	....	4385	Abandoned
Price 1	7-19S-39E	3603	....	....	....	....	....	....	Rig-up
State 1	9-19S-38E	3591	....	....	....	....	....	....	Rig up
McGeorge 1	30-20S-33E	....	....	....	....	....	....	....	Rig up
Pueblo Oil Co. (J. S. Cullinan Interests)									
Scott 1	29-25S-37E	3003	1200	....	2470	3063-3075	....	Shut dwn.	13,000,000 Cu. Ft.
Rector Oil Co.									
King 1	26-25S-32E	....	....	....	....	....	....	....	Drilling, 700'
Reynolds Drilling Co.									
Anderson 1	29-13S-37E	3905	2485	....	4770	....	....	5235	Abandoned
Skelly Oil Co.									
Joyner 1	26-25S-36E	3029	1140	....	2962	....	3331-3340	3340	810 bbls., I. P.
Shell Petroleum Corp.									
Terry 1	22-19S-38E	3595	....	....	....	....	....	....	Drilling, 1112'
The Texas Co.									
Humphreys 1	18-20S-32E	3453	840	2450	2555	....	....	....	Drilling, 2640'
Sheppard 1	6-26S-37E	2970	1130	2605	2643	....	3180	3223	15,000,000 Cu. Ft.
Moberly 1	17-26S-37E	2970	1212	....	2870	....	....	....	Shut down, 3541'
Lynch 1	34-20S-34E	3749	1760	....	3340	....	3722-3731	3731	1200 bbls., I. P.
Anna C. Moore 1	24-20S-32E	....	....	....	....	....	....	....	Rig up
W. H. Rhodes	22-26S-37E	2988	1108	....	3010	....	3040-3213	3213	120 bbls., I. P.
Cagle 1	9-26S-37E	2961	1110	....	2648	2836-3472	....	3472	80,000,000 Cu. Ft.
Jackson 1	4-20S-34E	3634	1540	....	3670	....	....	4031	Abandoned
Lockhart 1	5-22S-38E	3373	1725	....	4097	....	....	4507	Abandoned
Texas Pacific Coal & Oil Co.									
State 1	22-23S-36E	3407	1570	....	2945	....	3668	3995	15 bbls., I. P.
State 2	21-23S-36E	....	....	....	....	....	....	....	Rig up
Vacuum Oil Co.									
State 1	13-17S-34E	4012	1840	2850	4340	3848-3863 3930-3935	4462-4466	4710	10,000,000 Cu. Ft. gas Oil sprays
Harry Walker et al.									
Terry 1	10-19S-38E	....	....	....	....	....	....	....	Rig up

Review of Late Production News

CALIFORNIA continues to hold spotlight of production news, output gaining 20,200 barrels there the past week.

This brought daily average production for the country to 2,764,500 barrels the week ended June 22, a gain of 21,250 barrels over the previous week, according to the American Petroleum Institute.

Crude oil imports fell off 114,000 barrels the past week, to 208,571 barrels. Total new crude supply was 2,973,071 barrels, compared with new supply of 3,065,821 barrels the previous week, a decline of 92,750 barrels.

Santa Fe Springs increased 24,000 barrels on daily average. Seal Beach gained 3000, Ventura Avenue fell off 2500 and Huntington Beach 2000 barrels.

Gray county production in Texas Panhandle gained 7650 barrels. Pecos county in West Texas declined 9400 barrels.

In Oklahoma, Earlsboro field was up 3100 barrels and Mission pool down 3150 barrels.

Salt Creek decreased 3800 barrels on daily average.

California

DAILY average production in California was estimated to be in excess of 840,000 barrels for week ending June 22. This is slightly under the estimate from another source, which gave a figure of nearly 850,000 barrels for week ending June 19. The latter estimate took into account several completions in the Santa Fe Springs field that were made during the late part of the previous week.

There is a strong feeling among California operators that present curtailment plans will continue to prove ineffective because of the voluntary agreement feature of these prorating orders. Practically all small operators have failed to observe the orders to any degree and even some of the major companies show production in excess of their allowable quotas.

At the present time California's new gas law is lying on the shelf and it is understood that it will not become effective until August 18, 1929.

New completions are expected at Santa Fe Springs during the coming week which are expected to boost the field's total to over 260,000 barrels. Seven completions caused the total of the field to go to 246,000 barrels for week ending June 22.

Considerable excitement was caused yesterday, June 21, by blowing in of Western Gulf Oil Co.'s Hollister No. 1 on the coast above Elwood and Santa Barbara. The well came in for approximately 30,000,000 cubic feet of dry gas from a depth of 3115 feet. Oil sands, 27 feet thick, had been opened up below the casing set at 3088 feet. At latest reports there had been no showing of oil.

Operators on the Santa Barbara Mesa area received a jolt when Ring Oil Co.'s Nugent well struck a water sand at 2400 feet.

If curtailment measures are to be adopted in the Kettleman Hills area no time is to be lost, according to several operators in that district. Several plans have been submitted to Umpire F. C. van Deinse but all have failed to meet with his approval.

Standard Oil Co. is drilling below 6300 feet in its No. 81 and a number of others will head for the oil sands within the coming week unless drilling is stopped.

Not many wells would have to be completed in this area to boost the daily average production in California to over 900,000 barrels, and with the completion of some of the 57 wells drilling in or cemented over the O'Connell zone at Santa Fe Springs it is not unlikely that the state's production would exceed 950,000 barrels.

Oklahoma-Kansas

THE Oklahoma City pool added its second oil producer in the deep pay during the week. Wells in the extension to the St. Louis-Pearson Switch area continued to hold up. A good showing in a wildcat of Russell county, Kansas, and an unexpected well in the chat on top of the Mississippi lime in the Greewich pool of eastern Sedgwick county. These proved to be the features of the week in the Mid-Continent.

In the Oklahoma City area the Sinclair Oil & Gas Co. completed its No. 1 Stamper, NE SW NW of 30-11N-2W for 2500 barrels at a total depth of 6465 feet. The well is a little over half a mile southeast of the discovery well completed last December. Production in the latter showed but little decline with the completion of the second well.

Wells in the area north of St. Louis-Pearson Switch are holding up well on the gas lift. So far there are two wells definitely in the Wilcox sand, the Independent Oil & Gas Co.-Westland Oil Corp. No. 1 Rhodd, in 16-7-4, and the Independent No. 1 Burrows, in 1-7-4. The former is the best well in the extension, making around 3700 barrels daily on the lift.

Prairie Oil & Gas Co.-T. B. Slick have a showing in their Russell county wildcat which may indicate another pool. The well filled up 1000 feet with oil in the first 15 minutes after topping the pay at 3337 and drilling into it but one foot. The well is the No. 1 Sellers, and is in the SW NE of 36-15S-13W.

Texas, New Mexico, Louisiana

ALL producing wells in the Yates field, Pecos county, Texas, were being given 1-hour prorating tests last week to determine potentialities of the area. It was the first time since the beginning of the present year that all Yates field wells had been tested on hourly gauges, the practice having been to carry old completions at earlier ratings and to apply tests only on new wells. It was hoped to have potential production data ready for presentation at a meeting of the Pecos County Advisory Committee called for June 25 at Fort Worth.

In the southwest corner of sec. 30, University block 16, Pecos county, about 15 miles west of the Yates field, a discovery well has been completed by Taylor-Link Oil Co. At total depth of 1625 feet, top of pay 1613 feet and surface elevation 2500 feet, the Taylor-Link well made 75 barrels of oil, and no water, in 14½ hours, June 20.

A number of 40-acre and 80-acre tracts are under lease southwest and southeast of the well. Principal owners of acreage in the area are the Shell, California, Humble, Marland (Continental), Sun, Gulf and Skelly companies.

Development adjacent to the Bowers wells of The Texas Co., in the Texas Panhandle, had raised Gray county production to approximately 55,000 barrels daily. The Panhandle territory as a whole was again producing in excess of 95,000 barrels daily.

Deep Well Pumping Problems Confront Tonkawa Field Producers

By John Power
N. P. N. STAFF WRITER

TONKAWA, June 24

DEEP well pumping in the Tonkawa field resolves itself into the problem of handling large quantities of fluid with relatively small proportions of oil. The field men, members of the Tonkawa chapter of the American Petroleum Institute Division of Development and Production Engineering, holding their regular monthly meeting the evening of June 19, found their problems to be common ones of finding working barrels that would handle the fluid, and at the same time give so little trouble that the comparatively small amount of oil yielded by many of the wells could be produced at a profit.

C. M. Copeland, local superintendent for the Comar Oil Co. and presiding chairman of the chapter, cited as an example of the deep well pumping problems one well, making 500 barrels of fluid, of which but ten barrels was oil. On 2½-inch tubing, with a 54-inch stroke, an Axelson barrel was handling satisfactorily the 500 barrels of fluid.

With 2-inch tubing the barrel handled from 275 to 300 barrels. Other barrels had been tried, said Mr. Copeland, but for the wells of which he had charge the Axelson barrel had shown itself the most satisfactory. An Efco barrel had been with excellent success so far as length of run without being pulled, but it did not handle the amount of fluid necessary to keep the oil pumped off.

The Texas Co. superintendent, Carpenter, reported excellent luck with the Penrod barrel, saying that it had handled the fluid necessary, and in addition had given cause for very few pulling jobs.

It was the opinion of many of the field men present that the honors for lessening the amount of rod trouble in the Tonkawa field should be given to themselves as much, if not more, than to the rod manufacturers. Rig fronts on beam wells have been tightened up, resulting in a noticeable decrease in the amount of rod trouble. The slack has been taken out of the pitmans, the jack posts re-babbitted, the rigs generally put in better conditions. This, coupled with careful counterbalancing, has taken much of the slack and whip out of the rods, resulting in a considerable reduction in rod pin breaks.

E. H. Griswold, Petroleum Engineer, with the Marland Production Co., and advisor to the Tonkawa chapter of the American Petroleum Institute Division of Development and Production Engineering

Tho suggestion was made that a barrel designed the reverse of the plunger barrels now in service might prove to be an improvement. That is, one with a long plunger and short barrel, instead of the present form of long barrel and shorter plunger. With the amount of fluid present in the wells of the Tonkawa district, there would be little danger of the fluid seal being broken, and the longer plunger would give a continuous pumping action.

The consensus of opinion approved the placing of the working barrel close to the top of the sand, regardless of the fluid level in wells making fairly large amounts of oil. In the lighter wells, it was found that it did no harm to tube close to the top of the fluid level and skim the oil. No decrease in oil production was noticed in small wells in which this practice had been followed. There was an added advantage of having to handle less total fluid to get the production.

Counterbalancing, one of the most important phases of eliminating trouble in a pumping well, came in for a considerable part of the discussion. All types had been used by most of the superintendents present, with the general inclination to favor the home made type being noticeable.

The "grasshopper" type, counterbalancing on the pitman, on the crank, on the bandwheel shaft, all had been tried. Home made counterbalances, constructed of concrete and scrap iron, seemed to give the best results when properly located. As close to the pitman as practicable was the place for the counterbalance, it was decided, as this position did not force the crank to work against the counterbalance at any part of the stroke.

Pitmans should be in good shape, it was pointed out. The 3½-inch shaft, with split babbitted bearings, properly skimmed, was generally considered to be the most satisfactory.

The equipment used for pulling rods came in for a general discussion. Opinion was practically unanimous that portable power plants of some type or other were preferable to using the pumping engine and bull wheels for pulling rods and tubing.

When some outside source of power was used to pull the rods and tubing, the engine was in good shape when shut down, and in good shape when started up. In case it was in need of repair, the work could be carried on during and without interfering with the pulling job.

The speeds at which it was necessary to run the pumping engine when it was used for pulling jobs did it considerable harm. The engines were not designed to run at high speeds for any length of time, and the additional strain caused many a costly shut down at a later date.

IN GENERAL it was felt that a properly designed tractor, with sufficient power, speed and braking power, was the most satisfactory. Production hoists require the use of the pumping engine, the thing from which it was most desired to get away.

The clutch was another part of the rig which suffered from the use of the pumping engine as the power source on pulling jobs. The constant engaging and disengaging, backing and filling required of the clutch generally proved too much for it, and if no break-down occurred to slow down the pulling job, one usually occurred soon thereafter, necessitating the shutting down of the well.

The Editors' Viewpoint

National Petroleum News

The Future for the Independent Jobber

By Warren C. Platt, Editor

A PROMINENT Independent oil jobber who recently sold his business to a well known Independent refinery operating stations, but which jobber continues at the head of his old business, writes us the following as to why he sold and his fears as to the future:

"It may interest you perhaps a little to know why I should make a move of this kind when we were doing so well by ourselves. I have long been of the opinion and I have expressed it on various occasions at meetings of oil jobbers, that the Independent distributor would ultimately disappear unless he secured for himself a supply of crude oil and his own refinery.

"Five years ago when I first suggested this to the jobbers, two or three prominent distributors disagreed with me rather vigorously. All of those who disagreed with me at the time have since disposed of their business to some of the larger oil companies and the trend of today is very definitely toward consolidation of the small distributors with larger oil companies who have crude and refineries.

"I have come to the conclusion that the future for an Independent distributor, particularly operating an extensive line of bulk stations, is too uncertain to justify his continuing to be independent. No refiner that I know of will today give an Independent jobber a permanent connection. Their contracts are all for short periods and the refiners themselves are so uncertain of the attitude of the dominant factors in the business that today they do not dare go beyond one or possibly two years on a contract with the Independent distributor. I can even go so far as to say that I can foresee the time when the entire industry will be dominated by a very, very few, great organizations.

"If one will only observe what is going on in the public utility business, the railroads, the food distribution, department store chains and so on, he cannot but conclude that we are entering into a new era of distribution which, while it may be economical and result in a saving to the ultimate consumer, will prove disastrous to the average individual operator.

"The oil business may be peculiar in some respects and may differ somewhat from some of the other industries that are now being consolidated, but still the trend is clearly in the same direction. Even the present move for so-called conservation of oil resources is a long step in the direction of control by a few companies, if not in fact control by government bureaus.

"All of which leads me to believe that an Independent company such as my own will find its interests best served by consolidation with a good refiner who is equipped and prepared financially and otherwise to follow through the various changes that surely are taking place.

"In some respects I dislike to disappear from the ranks of Independent operators, but on the other hand it will be more comfortable over the next few years to be tied up with a sound source of supply.

"I have read carefully what you have had to say from time to time with respect to some things going on in the industry at the present time and if you feel like doing so, I shall be glad if you will, after reading this letter, give me your own opinion."

To all of which we make reply—

The fear of a shortage of crude oil is what has brought on most of the bad practices of the oil industry, for both big companies and little. It is the hunger for crude oil induced by this fear that makes big companies go after crude production so relentlessly that they bring on bigger surpluses than necessary and break the market. This is true even though our oil industry leaders are loudly proclaiming at the same time that there is enough crude to run us forever, or thereabouts.

And now we have the Independent jobber selling out because he too fears a crude shortage.

This fear has been in the minds of oil men ever since the start of the industry. It has dominated the thought of the oil industry leaders since Drake found the first commercial well more than 60 years ago. Almost every year since then oil men have been shaping their policies from this fear and, when these oil men died, their successors did the same, and when they passed on then the newcomers followed the same obsession.

To argue that, because the supply has lasted in abundance for 60 years it will last another 60 is of course foolish, but the argument certainly should give assurance for the next five to ten to possibly 20 years that most of today's oil jobbers will be in active business. And, in addition, we have the oft repeated assurances of all our industrial leaders that the country need not fear for a very long time, perhaps hundreds of years a shortage in petroleum.

That individual refiners will not give long time contracts does not argue uncertainty to the oil jobber. He perhaps is better off without contracts. The industry now has a well established and well operating tank car market where every man can come and buy what he wants. The character of that market is the jobber's best assurance as to a reliable source of supply. There are few things in this world that one can make long term contracts for. Off hand the writer cannot think of any raw material or manufactured product. Practically every factory in the country of every kind op-

erates on short time contracts or none at all. The automobile industry uses short term contracts and also does a great deal of open market buying.

Oil refiners are in business to make money, not to sell exclusively through this or that kind of outlet. As long as refiners can sell at a profit they do not care whether they sell through their own gasoline pump on the curb or by tank cars. The reason the refiners have gone in so heavily for stations is because they did not for years understand the tank car market, because, in ignorance, they continued to over produce it, which forced the prices down to losing figures. In desperation the refiners turned to their own station outlets. It was not because the station business itself was so alluring as because they were losing money in their tank car market.

Now the refiners see more clearly and are operating largely according to common sense, so that there is no reason to believe but what the tank car market always will be profitable, save for casual occurances of overproduction. As the refiners understanding of, and confidence in, the tank car market increases, and they have greater assurance of a profitable price there, the chances are there will be quite a let up in buying out jobbers and putting in stations. In fact, one can make out quite a sound argument that, instead of this being the end of the jobber's era, it is the beginning, that is for the able, intelligent, hard working jobber.

The chief reason for refiners not giving long contracts is due to their inability at the present time to either dope out the future market price for their products or a method of drawing a contract that will cover a price which will protect them. The refiners, and jobbers too, have been badly burned in the past on every form of contract worked out to date, but, as time goes on and there is still more familiarity with the tank car market and the factors that affect it, there may be less hesitancy on the part of the refiners to make contracts based on it.

At all events it is not a shortage of crude that causes refiners to refuse contracts.

The jobber who has addressed us above, cites the consolidation of companies in many lines, but those lines differ so much that one cannot fairly assign the same reason for consolidation to all of them. But this point is being more and more recognized in all these consolidated activities—that the more responsibility and authority that can be given to the right individual over a unit of operation the better that unit can be run. Even the Standard of New Jersey has started to break down its organization into more easily manageable units.

When department stores began to grow large and thick most people said it meant the end of the small store, but the small store, the individually owned and operated shop, continues in possibly more flourishing condition than ever. These small shops and stores are giving the department stores a hot run for the public's money. Boiled down the problem of the department store manager is to get his departments down to as efficient a basis as the small shops around him. The department store, even though he pays big salaries, finds it difficult to get the right people to run these units for him. And the public likes to buy from the shops where it gets individual service and attention and where it finds prices are as low as those of the large stores, quality considered.

From all of which and many other reasons and much other evidence, an Independent jobber may well argue that he is just as well off, or perhaps better, in continuing to run his own business at present than any time in the past.

McLaughlin, Hansen Again Head Wisconsin Jobbers

MILWAUKEE, June 22.—All officers of the Wisconsin Petroleum Association were reelected at the association's annual meeting held at Green Bay recently. J. M. McLaughlin, vice president of Bartles-Maguire Oil Co., Milwaukee, was reelected president; J. F. Hansen, Hansen Oil Co., Burlington, vice president; H. A. Rohde, Rohde-Deuster-Hinkley Oil Co., West Allis, secretary; and R. E. Andrew, Pennsylvania Oil Co., Madison, treasurer.

These new directors were added: M. G. Peeters, Wadhams Oil Co., Milwaukee; Ole Larson, Golden Rule Oil Co., Chippewa Falls; T. A. Clark, Clark Oil Co., Manitowoc; and W. S. Zust, Inter-State Oil Co., La Crosse.

Among the speakers were W. P. Aberg, Madison, attorney for the association, who talked on the gasoline tax and other bills affecting the oil industry.

James V. O'Neill, supervising engineer of the Travelers Insurance Co., Milwaukee, told of the origin and costs of accidents in the oil business and told the jobbers that they could make their insurance rate as low as they wished by exercising precautions and preventing the causes of injury to employes.

F. L. Kersten, state oil inspector, informed the jobbers that he had talked the question of reducing the Wisconsin inspection fees with Governor Kohler and that favorable action was to be expected.

Thomas F. L. Henderson, of the La Salle Extension University, Chicago, was another speaker, pointing out the importance of getting the right man for the right job and how service brings success.

Mr. McLaughlin presided at the meeting. He reviewed the past year's work of the association. More than 60 jobbers attended the meeting.

Shell Has Motor Campaign

ST. LOUIS—A one-week drive on its motor oil was announced by the Shell Petroleum Corp., here to acquaint the motoring public with its product, according to U. de B. Daly, president. This drive was to have been on the week of June 16.

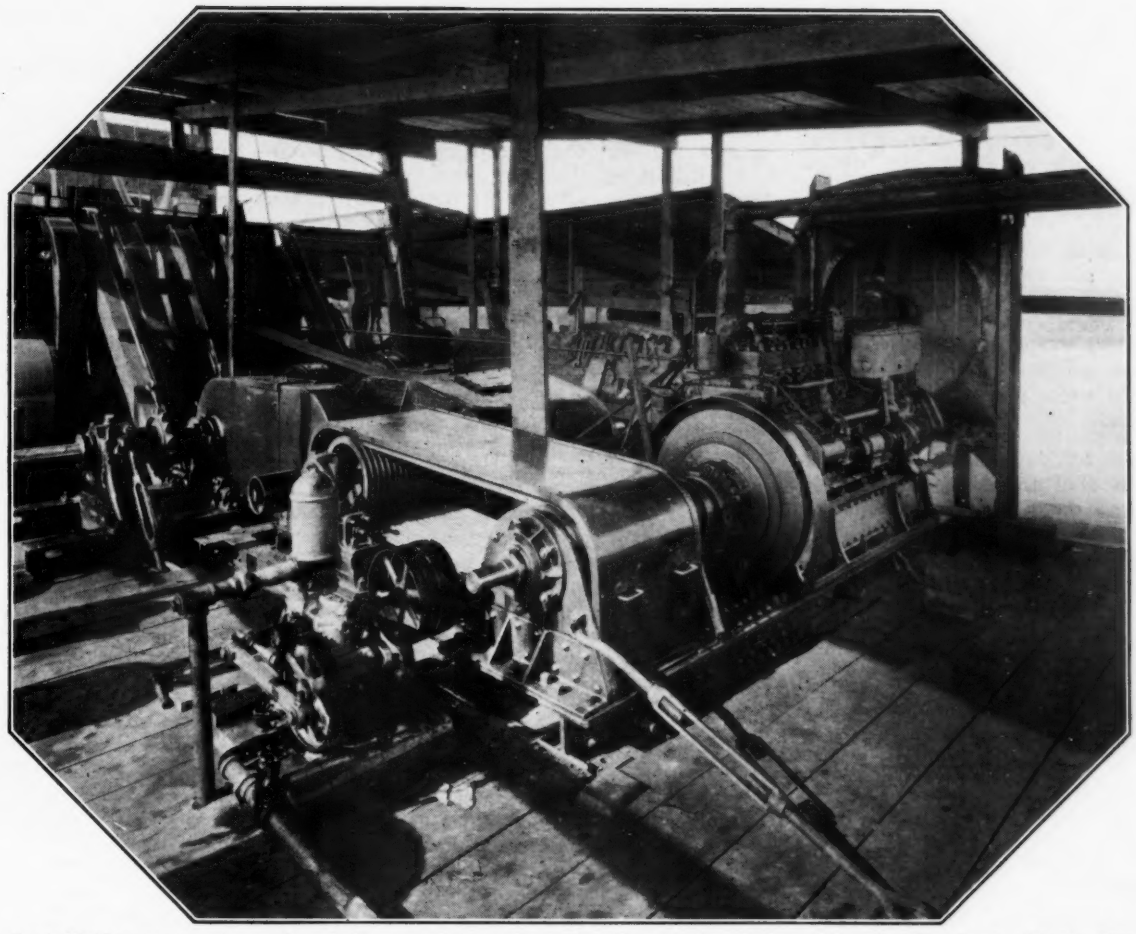
Plans have been under way for several months and as a last step some 600 sales meetings were held through that company's marketing territory. Motorists will be encouraged to ask salesmen questions concerning the company's products and any problems affecting the operation of their cars.

New Books

"The Merchandising of Petroleum Products" by R. H. Thomas, recently come to hand, is a practical help to the salesman, agent or service station operator, particularly to those starting in the business. The author spent several years in the service of the Standard Oil Co. of Indiana, the last few years as manager of the Mason City Division, and the ideas developed in his book are the result of his experience rather than theory.

For the agent he goes into methods of studying the possibilities in his territory by making his own canvass of the farm machinery on individual farms. In the section of the book for salesmen he brings out how the agent and salesmen can coordinate their efforts to the end of developing new business and giving the degree of service that will hold accounts. He gives an idea of how the market for other products than gasoline, and motor oil can be worked up in a territory.

One section of the book is given over to selling through service stations. Another is devoted to the handling of complaints, in which actual experiences of the author make very interesting reading.



Installation on a rotary rig of the new internal combustion engine designed by the Waukesha Motor Co. The rig pictured drilled 3100 feet of hole in 26 days, of which four days were lost due to heavy rains

Internal Combustion Engines Used To Drive Rotary Rig

TULSA

By John Power
N. P. N. STAFF WRITER

AN INTERNAL combustion engine, powerful enough and flexible enough to handle efficiently a heavy duty rotary rig, has been developed by the Waukesha Motor Co. The first well has been drilled using the new engine, which performed to the entire satisfaction of Mead Bros., Inc. drilling contractors and owners of the well, as well as to the satisfaction of the C. F. Camp Co., state distributors for the Waukesha and other oil field specialty motors.

In the operation of the rig, three of the engines are used. One runs the draw works, one on each of the mud pumps. All engines are interchangeable, each being 6 cylinder, 275 horsepower, with a 7¾-inch bore and 8½-inch stroke. A compression ratio of five to one is used when natural gas is to be the fuel.

In the installation used on the Mead Bros. No. 1 Hall, in 25-17N-3E, Lincoln county, Okla. the first well to be drilled with the new engine, the motor which powered the draw works was connected through Tex-rope drive to a two-speed reduction gear, the latter built by the Portable Rig Co. of Houston.

The reduction gears furnish two gear ratios—one for going into and coming out of the hole, and one for drilling. The reduction gears drive a heavy duty, reversible clutch, which in turn actuates the drive shaft on the rotary draw works.

The driller handles the clutch from the derrick floor through a gear and toggle, giving him easy operation. The motor has proven itself sufficiently flexible to operate the rig under all conditions through this hook up.

A Tex-rope drive connection is used between the motors and the mud pumps. With the pumps running three quarters open, it was necessary, according to the contractors, to open the pump motors but half way. Although the first test on which the motorized rig was used called for but 3100 feet of rotary drilling, Mead Bros. have sufficient confidence in the power and reliability of the outfit to use it on a 4500 foot wildcat which they are to drill soon for the Gypsy Oil Co.

The entire assembly comes in units, mounted on steel skids, which makes for easy transportation. No single unit weighs more than 15,000 pounds. With extra cross sills set under the engine house floor, the units are quickly and easily set up in slots, the skids being keyed in. Turn buckles on the Tex-rope drive members and the clutch shaft serve as additional bracing, at the same time allowing for the necessary adjustments in the Tex-rope drive members.

Although no repairs became neces-

sary during the drilling of the first test well, all engine parts are easily accessible. The crank-shaft is the only engine part which is not removable from the outside. Although the engine was originally designed to run the generators of electrically driven railroad locomotives, their design has fitted perfectly into the oil field scene.

Designed to run out of doors, there are dual air cleaners, which filter out all impurities in the air taken into the chambers. There is also a three unit oil filter. Both air and oil filters are so designed that units can be cleaned while the motor is running under load.

In the 26 days which were required to drill the Mead Bros. well, the engines did not cause a moment's shut down. Four days drilling time was lost due to the heavy rains thinning the mud in the pits to a point where drilling could not be carried on.

According to the drillers and contractors who used the outfit on its first field test, the speed and flexibility is best compared with that of an electric rig. Manual drilling control, is, of course, used with the motorized rig. First cost is also about that of an electrical outfit, depending on the type of power transmission used between the motor and the draw works.

Operating cost, on the first well, has been remarkably low. A combined maximum of about 100,000 cubic feet of gas per day was used during the drilling of the well, which at 18 cents per 1000 cubic feet, amounted to a maximum daily fuel bill of but $18.00.

Water requirements are practically nil for the motors all three engines using but 10 gallons of water during the entire drilling of the well. Not only is a considerable cash saving effected by this reduction in water requirements, but with the cash saving comes another saving in "grief." Water often becomes extremely scarce at times, so scarce that the actual water is worth more than the money.

It costs money to shut down a drilling well for any purpose, so that the releasing of every barrel of water from other requirements, permitting its use for drilling, is a boon to contractor and operator alike.

The water pump, which supplies the location is set up beside the Texrope drive member driven by the rig motor. A belt over a cat-head on the gear-end shaft of the former runs the water pump. When cementing, a plug is pulled from the out-put line from the pump, and a hose is run to the cement wagon, making a simple and efficient hook-up.

With all three motors used in the assembly identical, it is a simple matter to change the use to which any one is put. Naturally, the motor which drives the rotary is under a bigger strain than either of the motors on the mud pumps.

After a well or two has been drilled with one motor doing the "heavy," it is an easy thing to interchange motors during the rigging up for the drilling of the next well. This practice keeps all three motors in about the same condition, their depreciation being less rapid, and uniform. Eighteen-unit Tex-rope drive members are used on the installation, although but 15 units are put into use on the pumps.

To make sure of the continuous operation of the power plants, all engines are equipped with dual ignition, dual starting equipment and dual water circulating pumps.

On the first installation the starting equipment was electrical, with the current furnished by a battery, though this feature is to be changed and the familiar compressed air type of starter installed. The ignition system, which has both magneto and battery, has the distributor run through a junction box, permitting the use of the battery in an emergency.

Fuel availability, as well as fuel economy, is another feature of the motorized rig. The motors will run with equal efficiency on either natural gas, or gasoline, the latter being any type, either refined, natural, or casinghead.

On the only well drilled so far with the new type rig, the amount of deflection from the vertical was never in excess of two degrees, a fact which is considered to be further proof of the flexibility of the power flow. Using manual control, the driller has to have quick and easy response to power throttle.

Seeks Reinstatement Of Oil Permits

WASHINGTON, June 24.—A resolution directing the Secretary of the Interior to reinstate, immediately, all oil prospecting permits cancelled since March 12, was introduced in the Senate on June 19 by Senator King (Dem.) of Utah. The resolution sought to have the permits reinstated as of the date of cancellation.

Inasmuch as the senate immediately thereafter adjourned for two months there can be no action on the resolution before then. At the same time he made a speech reviewing the whole controversy that has arisen over the administration's conservation policy in so far as it concerns the public land states. The review was from the point of view of those who assert that the policy is illegal and a nullification of the national leasing law of 1920, the title of which says it is an act to promote the development of oil and gas resources, among others, on the public lands.

The Utah senator had incorporated as part of his speech, his own resolution of April 19 calling on the senate judiciary committee for an opinion on the legality of the no-permit policy, figures sent to him by Secretary Wilbur showing that oil production on public lands amounted to 2.22 per cent of the total, the letter of the governors of Colorado, Utah and Wyoming sent to President Hoover controverting the Hoover policy, newspaper articles showing the slaughter of permits and rejection of applications therefor and the legal opinions of a number of men to the effect that the policy nullifies the leasing act and deprives the public land states of benefits. Congress intended to confer by the enactment of the leasing law.

Magnolia Pipe Line Runs During May

HOUSTON, June 21.—Magnolia Petroleum Company, pipeline department, announces from Dallas headquarters the following crude oil runs for May, which are shown in comparison with April.

	April	May
Hewitt-Graham	146,748.06	150,874.57
Healdton	220,321.66	216,513.00
Cushing	106,006.46	110,715.73
Yale	43,853.42	43,032.74
Augusta	34,942.27	36,760.85
Wewoka	984,662.78	919,393.82
Seminole	59,164.55	63,947.85
Total Okla.-Kans.	1,595,699.20	1,541,238.56
Archer	22,596.46	22,850.26
Burkburnett	65,318.17	67,776.00
Comanche	15,503.74	17,208.28
Electra	90,733.51	90,675.46
Corsicana—Heavy	9,108.37	9,152.96
Corsicana—Light	11,414.22	13,733.25
Henrietta	1,641.78	2,530.74
Iatan	18,813.90	17,178.13
Luling	304,635.32	309,792.31
Lytton Springs	33,997.30	34,644.84
Mexia-Wortham	20,766.55	21,085.37
Mirando	144,810.63	181,902.25
Olden	9,088.72	9,010.73
Panhandle	82,890.92	89,019.93
Panola	1,709.29	1,304.83
Stephens	8,752.09	8,373.59
Thrall	1,044.25	976.60
Crane-Upton	113,988.22	118,734.60
Glasscock	75,214.45	70,573.84
Winkler	103,897.49	117,526.84
Total Texas	1,135,925.38	1,204,050.81
Haynesville	2,859.35	6,707.70
Bull Bayou	41,509.65	38,394.55
Cotton Valley	18,455.76	22,254.61
Pine Island	31,423.91	30,671.74
Hackberry	51,305.64	32,464.83
Total Louisiana	145,554.31	130,493.43
El Dorado Light	10,751.87	9,700.81
East El Dorado	3,607.22	4,095.93
Smackover	72,206.87	70,331.62
Rainbow	83,166.14	71,517.57
Total Arkansas	169,732.10	155,645.93
GRAND TOTAL	3,046,910.99	3,031,428.73

OKLAHOMA-KANSAS

Report for May		Dly.Avg.
Runs	2,311,910.00	74,577.00
Shipments	2,326,603.00	75,052.00
Total stock	9,849,110.00	

TEXAS

Wichita, Wilbarger, Archer		
Runs	181,820.00	5,865.00
Shipments	166,516.00	5,371.00
Petrolia		
Runs	2,531.00	82.00
Shipments	2,531.00	82.00
Eastland, Stephens		
Runs	34,593.00	1,116.00
Shipments		

TOTAL STOCK—295,135.00—North Central Texas field.

Second Producer Is Completed In Oklahoma City Pool

By John Power
N. P. N. STAFF WRITER

TULSA, June 22

OKLAHOMA has now the definite assurance of two new pools which may be expected to reach economic importance by fall. The Oklahoma City pool has its second producer in the deep pay. The area north and east of the Pearson Switch and northwest of the St. Louis pools is now considered on the list of Wilcox pools.

The Sinclair Oil & Gas Co. No. 1 Stamper, NE SW NW of 30-11N-2W, is the Capital's second oil well, heralded with much joy by the local citizenry. It is making 2500 barrels per day from a total depth of 6465 feet, with no increase in production noticeable during the last ten feet drilled. The well had a peak production of 123 barrels per hour.

It is generally believed that the pool is from 30 to 60 days away from any real economic importance. There are some 14 wells drilling below 6,000 feet, but it is a long slow drag the last 400 feet. Large gas volumes, coupled with high pressures, increase the difficulties and hazards of the deep drilling, a fact which has been evidenced by the number of fishing jobs encountered in wells approaching the deep pay.

The Empire, with a trunk line running north from Guthrie, is in shape to handle considerable more production than is now being yielded by the field. So far, the Empire is running the oil from both the I.T.I.O.-Foster Petroleum Corp. discovery, and the Sinclair's well.

Mid-Kansas Oil & Gas Co., which took over the holdings of the Ramsey Oil Corp. in the Oklahoma City field, is expected to furnish the next deep completions. Its Nos. 1 & 2 Fortson, in respectively the CSW and the CNW NE, of 24-11-3W, the same section as the discovery well, are both below 6300 feet. The former has a fishing job at 6370, and the latter is drilling ahead at 6311. The number one has had a small showing of oil.

The general development of the pool probably will be along orderly lines. The operators in the pool have shown a willingness to get together on the locations to be drilled, and there still remains much exploratory work to be done. At a meeting of operators in the field shortly after the completion of the Sinclair's well, it was decided to limit the present number of locations to 31.

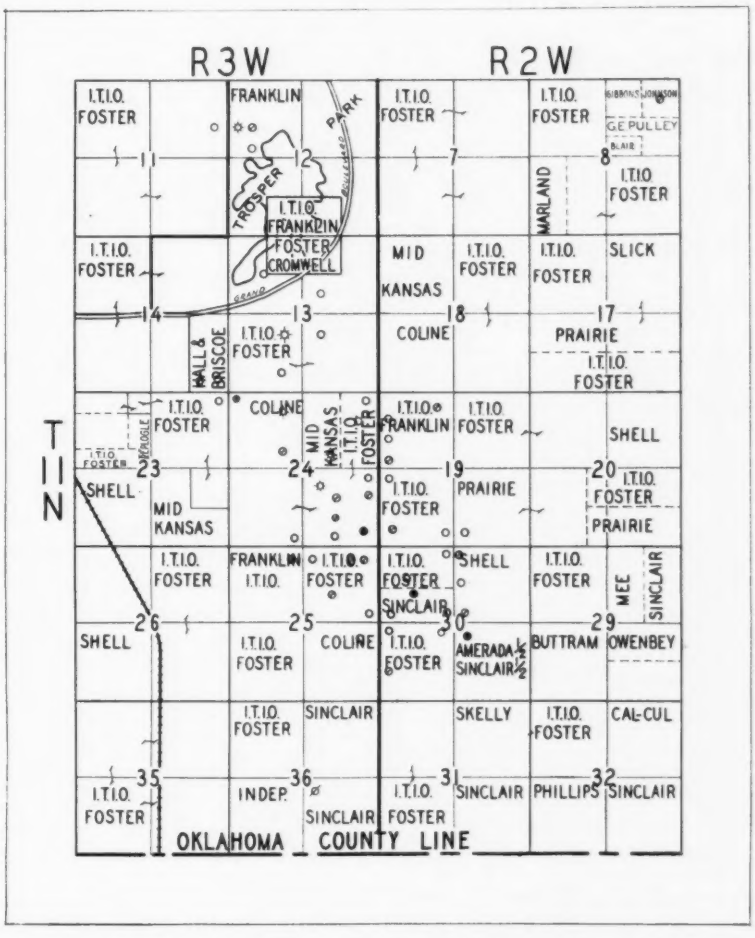
Of this number the I.T.I.O.-Foster interests, which have by far the greater portion of the acreage comprising the present play, have 25. The Cromwell Oil & Gas Co.-Wirt Franklin-I.T.I.O. combine has three, the Coline Oil Co., one and Sinclair two. Most of them are in sections 24 and 25, Twp. 11N-3W, and 18 and 30, Twp. 11N-2W, about which the play centers.

It is not expected that more than half a dozen of these will become active at once. Even the locations so far are tentative.

Oklahoma's other most promising spot has been dwelt on at length in previous issues of NATIONAL PETROLEUM NEWS.* The Wilcox sand discovery well, Independent Oil & Gas Co. No. 1 Burrows, SW NW NW of 1-7-4, is swabbing about 500 barrels of Wilcox oil daily, the swab being run but eight hours. The No. 2 well, south offset to the No. 1, is flowing some 2200 barrels daily from the Hunton lime, the formation in which the area's discovery well was completed.

The Hunton lime has been providing such excellent wells that only those tests which have missed the Hunton production have been carried on down. As an example of the Hunton wells the Martin, Irwin et al. No. 2 Kelly, offset to the discovery well, is flowing more than 3200 barrels

*See map, page 49, June 12 issue of NATIONAL PETROLEUM NEWS.



Map of the Oklahoma City area, which now has two wells in the deep pay. The third producing well shown on the map, belonging to Sinclair and Amerada, is a gasoline well, producing about 900 barrels of good quality natural gasoline daily

natural from the Hunton from a total depth of 3861, still in the lime.

The area's best well to date, the Independent Oil & Gas-Westland Oil Corp. No. 1 Rhodd, in 16-7-4, is having a swell time of it on air, flowing more than 3600 barrels daily. The producing formation has, according to the operators geologists, been identified as the upper, or Seminole Wilcox. This name is given it to differentiate it from the second, or true Wilcox sand which provided such spectacular wells during the early life of the St. Louis pool.

The upper Wilcox, such as produced in the rest of the Seminole pools, does not usually provide as large wells nor carry as thick a sand body as the second sand, but it generally covers more territory. That this sand did a fair to middling job of producing in the great group of Seminole oil fields will no doubt be conceded by the entire producing industry.

Of interest and importance is a showing in a wildcat being drilled by the Prairie Oil & Gas Co.-T. B. Slick in Russell county, Kan., midway between the Rice county pool north of Hutchinson and the Russell field. The well, the number one Sellers, SW NE of 36-15S-13W, filled up 1000 feet with oil in 15 minutes, and was then shut in. Pay was topped at 3337, and was drilled but one foot. The oil tests 38.1 degrees A.P.I. gravity.

* * *

Notes on the Week

The deepest drilling well in Oklahoma is going still deeper. Last reports from the field stated the well, the Indian Territory Illuminating Oil Co. No. 1 Cook, in the NW of 10-1N-14E, Coal county, was drilling ahead in shale at 7450 feet. A driller gets a long way from his work these days.

* * *

Asher production has declined a bit, the last 24 hour gage being 8,865 barrels from eight wells. Operations in the field are practically at a standstill, due to the many failures which have been drilled on the edges of the "puddle."

* * *

The Texas Panhandle showed a gain of 5811 barrels daily average production over the preceding week, with an increase of five producing wells. Production from the Panhandle now amounts to 86,914 barrels from 1579 wells.

Working Barrel Standardization Urged at A.P.I. Meeting

DRUMRIGHT, June 21

WITH all makes of liner barrels brought out in the open and discussed, the suggestion was made at the June 18 regular monthly meeting of the Drumright chapter of the American Petroleum Institute Division of Development and Production Engineering that the manufacturers of patented barrels get together on some form of "standardization."

It was the expressed opinion of many of the 50 or more field superintendents and foremen gathered at the meeting that, inasmuch as most of the barrels on the market today are in many respects similar in principle and design, a saving of time and money to the superintendents and operators generally might be effected by a standardized barrel which could embody the good points of those now in use.

A general spirit of dissatisfaction with the barrels now available pervaded most of the discussion. When the design of the barrel did not give trouble, the barrel transferred its "grief" to the sucker rods, although in either case, it all spelled work and worry for the men in charge of the producing properties. And work and worry on the part of field men is easily and quickly translated into down time, lost production and expense to the owner of the properties.

A particularly sore point with the superintendents present was that, when the design of the common working barrel was such that it best handled the production, faulty manufacture often caused pulling jobs when they would not otherwise be necessary. Deviations from gage were so frequent that in many cases cups were worn out by the barrels whether or not there was anything the matter with the well itself which would cause such wear.

Representatives of some of the larger operating companies said that they were checking the working barrels bought by them, and that rejections of as many as 50 per cent were not uncommon. This statement brought to his feet a representative of one of the smaller organizations, which was, he said, not equipped to check the material bought as carefully as were the larger companies. Who, quoth he, gets the rejects? They go back to the supply house, and, as proved by experience, when the supply house is not reimbursed by the manufacturer, the "little fellow" has the imperfect barrels passed on to him. This is a point which the users of oil field equipment might well take into consideration, it was said.

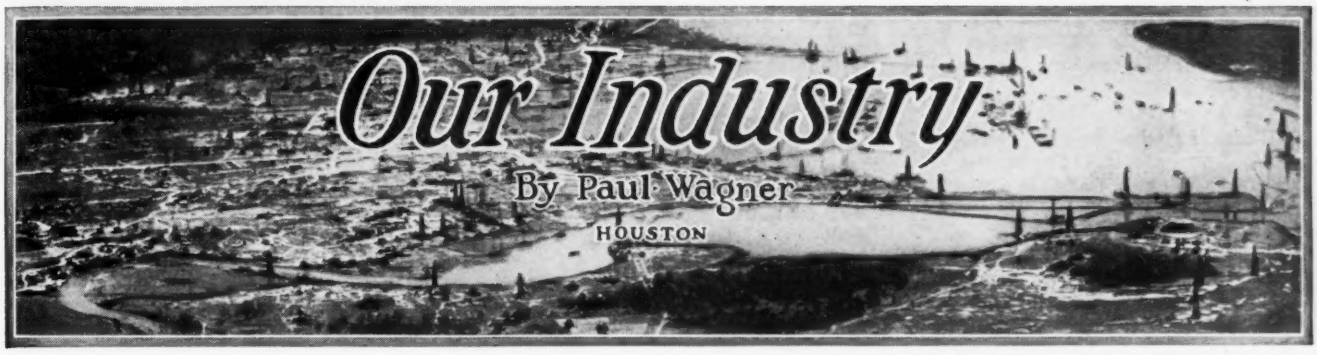
Particularly in wells which necessitated the handling of a large volume of fluid, the Axelson liner barrel appeared to be the favorite with the Drumright foremen. This barrel, of the patented liner type, although capable of handling more fluid than the general run of liner barrels, was by no means ideal, according to the testimony of many who had had trouble with the plunger coming unscrewed from the cage. Such a condition necessitated either a fishing job for the rest of the barrel, or a tubing job, the latter meaning practically a full day's down time.

Shift and stretch in the string of tubing and rods said Art Wilson, Shaffer Oil & Refining Co. superintendent, could be blamed for much of the sanding up troubles encountered in wells tubed close to bottom. It was his belief, he said, that a 3500 foot string of tubing had about 18 inches of stretch in it with the motion of the sucker rods. This figure was arrived at through measurements on the outside of a working barrel taken from a well which had been tubed close to bottom and alongside of a bit which had been left in the hole during a previous fishing job. Total depth of the hole was about 3500 feet. When the tubing was pulled, a bright place, about 18 inches long, had been left on the barrel where it had worked against the bit.

Stirring up the fine sand and mud in the shot hole is responsible for many pulling jobs, the consensus of opinion showed. It was considered good practice to use a standing valve in conjunction with all barrels so that the column of fluid in the tubing is not dumped back into the shot hole to stir up the sediment when the string of tubing has to be pulled.

Methods of keeping the pumping stroke smooth and even were touched on lightly, though considered highly important. One instance of a well making about 500 barrels of fluid, pumping 28 strokes to the minute was cited. The pitman was out in the end hole, to give the maximum length of stroke. An oval gear, attached to the crank and actuating the pitman, was installed. Although no particular increase of daily fluid lifted was noticed, an appreciable increase in the smoothness of the stroke was noticed which in turn brought about a lessening of rod trouble.

TULSA—Expansion of safety work at the Mid-Continent Petroleum Corp. now includes the sales department. J. H. Savage, who has been safety inspector of the refinery, is to be inspector and first aid instructor in the production, pipe line and transportation departments.



F. J. Adams, in executive charge of Fort Worth division offices of the Gulf Production Co., looks after activities in a broad territory consisting of central and west Texas in addition to the Wichita Falls and Panhandle districts. He was appointed agent of the Gulf at Fort Worth several years ago, when W. B. Pyron, then third vice-president there, was transferred to Houston in a similar capacity. Mr. Pyron is now resident vice-president of the Western Gulf Oil Co., at Los Angeles. Mr. Adams has been identified with the Gulf organization more than 15 years, serving as assistant to Mr. Pyron at Shreveport before they were transferred from Louisiana to Texas in the old days of Ranger development.

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Edward M. King, scout of the Phillips Petroleum Co., in West Texas, now makes his headquarters at Midland, having been transferred there from Lubbock.

* * *

James E. McKanna, formerly chief geologist of the International Petroleum Co., subsidiary of Mexican Seaboard Oil Co. of Maine, but more recently an independent operator in the Wichita Falls district, is convalescing from a serious illness.

* * *

A newly authorized extension of the Kansas City, Mexico & Orient railroad from Alpine through Brewster and Presidio counties to the Rio Grande border, a distance of 86 miles, will serve a West Texas area in the trans-Pecos region of about 3700 square miles. It will also complete the KCM&O to a connection with the "Orient" lines in Mexico, as originally projected by Arthur Stilwell, its builder.

About 400,000 acres of prospective oil lands are under lease in Presidio county. Wildcatting has been slow in the region, partly because of the present necessity for hauling equipment over 40 to 70 miles of mountain roads to reach possible drilling sites. Besides oil possibilities, parts of Brewster and Presidio counties hold forth promises of important mineral production.

Quicksilver is produced at Terlingua and Shafter; gold, copper, zinc, lead and tin have been found elsewhere, although their commercial extent has been generally unmeasured.

* * *

Hoyt S. Gale, who heads geological work of the Western Gulf Oil Co., Los Angeles, under Walter B. Pyron, resident vice president, spent 17 years with the United States Geological Survey before joining the Gulf organization. He was chief geologist of the South American Gulf Oil Co., before moving to Los Angeles several years ago. His work in the central part of the San Joaquin Valley led to the discovery of the Fruitvale field, in the floor of the basin, west of Bakersfield, where little attention had been previously paid to the possibility of obtaining commercial oil. Mr. Gale is a graduate of Harvard, where he obtained his A.B. degree in 1900 and his B.S. degree two years later.

* * *

Harvey Hardison, petroleum engineer of the California Co., in West Texas, now makes headquarters at Midland, where field headquarters were recently transferred from Colorado City, Mitchell county. Mr. Hardison, who is widely known among the technical men of the southwest, recently cooperated in an engineering study of water encroachment on the Howard-Glasscock development area. He is also active in work of the American Petroleum Institute division of Development and Production Engineering.

* * *

Harry J. Witz, vice president and general manager of the Edington-Witz Refining Co., and director of the Edington Gasoline & Refining Co., Los Angeles, is a Pennsylvanian who got most of his early experience in the oil country in Oklahoma. His first experience in oil was with the old Chelsea Refining Co., afterwards taken over by the Pure Oil Co. at the time it was known as the Ohio Cities Gas Co. He operated independently in the Ranger, Texas, district in 1922-1923 and then joined the Rio Grande Oil Co., at El Paso. Later he was transferred to Los Angeles, resigning to become general manager of refineries for the old Julian Petroleum Corp. In Decem-

F. J. Adams

Harvey Hardison

ber 1926 he affiliated with the MacMillan Refining Co., afterwards joining C. B. Edington in his present enterprises.

* * *

William L. Olmsted, production superintendent of the Panhandle Refining Co., Wichita Falls, is one of the

Wm. L. Olmsted

younger group field executives active in North Texas territory. His company operates mainly in the shallow sand fields adjacent to Wichita Falls but engages in wildcatting, to some extent, elsewhere in Texas. Mr. Olmsted works with W. D. Brookover, production vice president, whom he succeeded as superintendent when Mr. Brookover's activities assumed broader scope several years ago.

* * *

Operators in north and east Texas will require no introduction to A. O. (Art) Behling, division superintendent of Humble Oil & Refining Co., at Corsicana, whose likeness appears herewith. Mr. Behling succeeded to his present position several years ago, after Ray Richmond had resigned the Corsicana division post to engage in drill contracting with Fort Worth headquarters. Mr. Behling has been an active figure in the Texas-Louisiana-Arkansas district work of the American Petroleum Institute Division of Development and Production Engineering.

* * *

J. P. Davis, formerly superintendent of the Hope Natural Gas Co., is now general manager of the Petroleum Reclamation Co., with headquarters at Bradford, Pa.

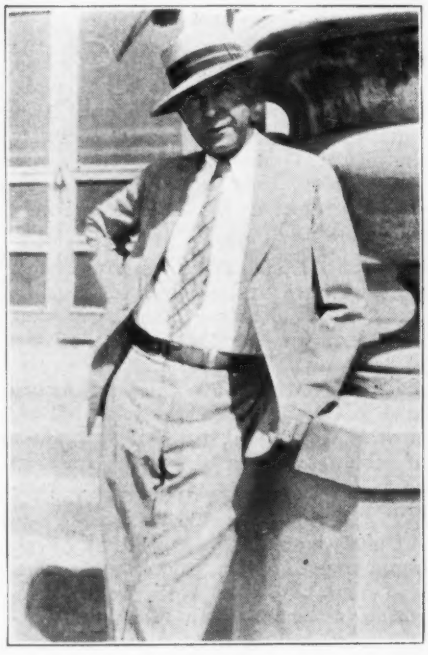
* * *

In addition to his continuing to cover his old territory in Texas, C. B. (Skeet) Hinton of the Williamsport Wire Rope Co. has taken on enlarged operations with Tulsa as a base. He will work with branches of the Bridgeport Machine Co., in Oklahoma, on service and sale of Williamsport rope.

* * *

The directorate of the Louisiana Land & Exploration Co., owner of nearly a dozen salt dome prospects being tested for oil under an operating contract with The Texas Co., shows the names of many familiar figures in the petroleum industry generally.

Included are Paul M. Paine, one of the principals in the Formax Oil Co., Los Angeles, formerly identified with Gulf Oil Corp. activities in the Mid-Continent and later operating vice president of Shell Oil Co. (California); E. DeGolyer, chairman of the board of the Amerada Corp., New York; A. Jacobsen, president, the Amerada Corp., Tulsa; Frank W. DeWolf, vice president, Houston, formerly executive vice president of the Humphreys Corp., and previously state geologist of Illinois; Holland S. Reavis, New York, formerly an oil publisher; and H. H. Timken, president of the Timken Roller Bearing Co.



A. O. Behling

Ernest B. Tracy, New York, is president and Sidney P. Allen, secretary-treasurer. Directors who are less directly connected with the petroleum industry include Henry Oliver, chairman of the board, Oliver Iron & Steel Corp., Pittsburgh; Robert M. Youngs of A. Iselin & Co.; Boykin C. Wright of Cotton & Franklin; and Elton Parks of Dominick & Dominick.

* * *

Paul R. Martin of the Pure Oil Co.'s Texas division succeeded to the position of chief scout at Fort Worth when P. R. (Pete) Smith took charge of Arkansas production activities at El Dorado about a year ago. Martin had been previously engaged in field scouting in the Amarillo district. He is one of the most widely known of the younger group oil men in the southwest.

* * *

Marion E. Brock of the executive department of the Gulf Companies at Houston spent his vacation driving to California and back in June. He was accompanied by Mrs. Brock.

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L. H. Kennon of the Rycade Oil Corp. is skippering the Purchasing Agents Association of Houston as president for the 1929 term. Roy J. Loucks of the Republic Supply Co. is secretary-treasurer.

* * *

Rex G. Hamaker of the Reed Roller Bit Co., Houston, has been elected vice president and plant manager, succeeding to that position from chief research engineer. Before joining the Reed organization he was chief engineer of Humble Oil & Refining Co.

* * *

Under a redistricting of central division operations of the Shell Petroleum Corp., announced by E. G. Allen, general superintendent at Dallas, A. S. Feild takes charge of activities east of Dallas and C. W. Alcorn handles West Texas and southeastern New Mexico territory. Mr. Feild was formerly Winkler county, West Texas, district superintendent. Mr. Alcorn's transfer to the new western district headquarters at Midland was previously announced.

Paul R. Martin

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J. A. Daugherty is now manager of the National Supply Co.'s Houston branch. He had been previously store manager at Hebbronville in the Laredo district.

Director Smith Comments On Conference

WASHINGTON, June 20.—A wider interest in conservation; a better understanding of its needs; a common desire to discuss the matter further; a more general purpose to find some plan of coordinated state and federal action in promoting the conservation of oil and gas.

Dr. George Otis Smith, director of the U. S. geological Survey, thus summarized the results of the Colorado Springs conference in a statement issued on his return to Washington. The remainder of his statement was as follows:

"The Colorado Springs oil conservation conference called by President Hoover served to clear the atmosphere. The results were intangible but not inconsiderable. The place of meeting and consequent large attendance from the Mountain States and Oklahoma naturally gave first place at most of the sessions to discussion of the public land and tariff issues. Free and open debate on these two topics relieved the tension and during the two and a half days the militant spirit of the speakers changed to a more deliberative attitude.

"One result of the conference not easily measured but a necessary first step is described by the editor of a Rocky Mountain oil paper—perhaps the most consistent antagonist of Federal control—who states that 'apparently all conflicting interests have emerged from the conference with a better understanding of each other's problems.'

"The same editor characterizes much that was said as 'old stuff,' but even at that the topics of overdevelopment, overproduction, economic waste, curtailment, and efficient control were all accorded too little consideration. The main purpose of the proposed state compact was only occasionally brought to the front, although the four Governors present—those of Kansas, Colorado, Wyoming, and Montana—were anxious and ready to set forth their position on the main issue and move forward toward some form of State agreement.

"The unanimous vote to take a recess awaiting selection by each Governor of delegates for another meeting to be called by the President, represented a compromise among the delegates from the 'big three' oil states, Texas, Oklahoma, and California, which produce 85 per cent of the country's oil and perhaps even more of its surplus oil. The delegates from these States found themselves possessing more diversity of opinions than authority for action."

New Pecos Discovery Shows Increase of Production

Staff Special

HOUSTON, June 22

THE Taylor-Link Oil Co., discoverer of a shallow well field 15 miles west of Yates development in Pecos county, West Texas, has made location for its No. 2 test in the northwest corner of Sec. 31, University block 16. No. 2 is a south offset to the discovery, in the southwest corner of Sec. 30, which as the week ended had increased its flow to a maximum of 82 barrels in 14 hours.

Oil testing 30.7 degrees gravity, corrected to 60 F., was found in pay at 1613-1625 feet, surface elevation 2500 feet.

Principal operators owning leaseholds in the area are the California Co., subsidiary of Standard Oil Co. of California; Shell Petroleum Corp.; Sun Oil Co.; Humble Oil & Refining Co.; Skelly Oil Co.; Continental (Marland) Oil Co.; Gulf Production Co., and Amerada Petroleum Corp.

The California Co. owns four sections west-northwest of the well; Humble Oil & Refining Co. owns five sections north-northeast of the discovery section; Continental (Marland) Oil Co. owns three and a half sections south-southeast of the well and a mile away at the closest point; two miles southwest of the discovery, Sun Oil Co. owns a block totaling more than 7000 acres; three miles southwest of the discovery and north of the Sun block, Transcontinental Oil Co. owns several thousand acres; west of the well, two to six miles, Humble Oil & Refining Co. owns approximately 4000 acres.

East, southeast and southwest of the well, closer in to the discovery than the larger blocks mentioned, are a number of sections where leaseholds have been cut mainly into 40-acre and 80-acre tracts. These are distant from the discovery from a half mile to three miles, according to their direction from the well.

Observers have not determined to their satisfaction whether the Taylor-Link discovery represents merely another of the small well fields found in Pecos county, or whether it is an edge completion indicating development of possibly larger scope and importance. On the basis of present evidence it does not appear, however, to be the forerunner of any such phenomenal development as the Yates field.

Lloyd North

North Is Coastal Head For Continental

HOUSTON, June 21.—Lloyd North, formerly of the geological department of The Texas Co., has resigned to become Gulf Coastal superintendent of the consolidated Marland Production Co., and Continental Oil Co. interests, who will reestablish South Texas offices at Houston. Mr. North will combine executive, land and geological activities at offices in the new Gulf building, which will be ready for occupancy about July 1.

Mr. North had been identified with The Texas Co., principally in the Gulf Coastal salt dome area, for seven years prior to his resignation. Prior to that he was engaged in state geological survey work in the middle west after his graduation from the University of Iowa.

Oil makes possible the preserving of fruits and vegetables and other edibles on your table. It ornaments your table with candles and appears in the match you strike to light them. It makes the family car go. It is in the improved highways upon which you drive. It is universal wherever machinery is moving. Locomotives, vessels and airships are driven by it.

The United States supplies more than half of Belgium's gasoline, a total of which 500,000 barrels were imported into that country in 1928.

Big Increase in Santa Fe Springs Production Expected Soon

LOS ANGELES, June 21

CALIFORNIA daily average production was up approximately 50,000 barrels for week ending June 19, to give an estimated total of 849,700 barrels as compared with 800,000 barrels for week ending June 12.

New completions were on the increase at Santa Fe Springs to boost the total for that field to 255,000 barrels. Long Beach, with four completions and three recompletions, showed an increase of 11,660 barrels to give a total daily average production of 176,000 barrels.

California's coastal fields were in the spotlight during the past week and development in them may overshadow the interest shown by the industry in the Los Angeles Basin and San Joaquin Valley fields.

Early this morning, June 21, Western Gulf Oil Co. had a blow-out at its Hollister Well, 47 miles west of the Santa Barbara Mesa field along the coast.

At latest reports this well, which was bottomed at 3115 feet and had a string of casing set at 3088 feet with 27 feet of good looking oil sand below the shoe, was blowing an estimated 30 million cubic feet of dry gas into the air. Company engineers are very optimistic over the showings in the well and believe that they are on the verge of discovering another oil field.

While this interesting development was taking place, operators in the Santa Barbara Mesa field were wondering just how much of an oil field they had there. Three or four wells at critical depths below 2000 feet have suspended operations as a result of the failure of Ring Oil Co.'s Nugent No. 1 to find the oil sand although it had drilled to a depth 2400 feet.

The Ring well tapped a water sand at 2400 feet and as the news spread around the field several operators, who were on the off side of this well, decided to await further developments. The Nugent No. 1 is about 600 feet west of the Olympic Oil and Refining Co.'s discovery well.

Among the wells to suspend drilling, for the present at least is Major Oil Co.'s Laing No. 1, which is below 2000 feet and which was thought to have an excellent chance to obtain commercial production. The Major and Ring wells were the first to spud-in after the completion of the Olympic well.

Dunlap and Knapp, Independent operators, are expected to be in a position to make production tests within the coming week in their two wells situated within a few yards of the discovery well. Several operators predict another fiasco, such as at Lawndale, although others—who are thought to be on the structure—are more optimistic.

Not in the least daunted by the doubtfulness of the Mesa field, Southern Exploration Co. is reported to have acquired a 200-acre tract in the area recently opened up for prospecting by the Santa Barbara City Council. This property, formerly belonging to the Bankline Oil Co., is about 3000 feet west of the discovery well.

Seven completions and two recompletions in Santa Fe Springs added 40,000 barrels of new oil to that field's production. From all indications, this will be a small amount compared with the increase due within the next few weeks from O'Connell zone completions. General Petroleum Corp. alone expects to bring in 6 or 7 wells within the next ten days.

One of the completions during the past week was made by The Texas Co. in the Nordstrom zone at a depth of 5027 feet when it brought in its Standlee No. 3 for 625 barrels.

Future production from the Nordstrom seems to be doubtful, as encroaching edge water does not make this zone attractive, especially when production does not amount to more than 625 barrels. Operators are more in favor of pushing the drill on to the O'Connell zone where there is a chance of obtaining 12,000 barrel wells at a small additional cost. The average production from the remaining eight completions, which were all in the O'Connell zone, with possibly part of the Upper Clarke, was 5035 barrels.

Of the 57 wells that may be expected to augment the production of the Santa Fe Springs field, within the near future, 30 are drilling in, 16 are cemented over and 11 are preparing to complete in the O'Connell zone.

Production from the Clarke zones below the part included in the O'Connell zone completions is expected to be slow, because of the high productiveness and the casing requirements of the O'Connell zone.

Exploitation of the Clarke zones will probably be done only by those wells which lie outside the productive limit of the O'Connell sands. Associated Oil Co.'s Clarke No. 2 and Oscar Howard's Hathaway No. 6, two such wells, have demonstrated that the lower sands are worth investigating.

Shell Oil Co. had its Nesa well in the Long Beach field down to nearly 8700 feet, with no showings worth considering except from a geological standpoint, which is the viewpoint of the Shell engineers.

San Joaquin valley came in for its share of attention when North American Consolidated's Sunset Extension No. 1 on Sec. 8-11-23, Maricopa Flats blew in for an initial flow of about 4000 barrels of fluid, containing considerable water.

THIS well, after flowing through an unprotected hole for a few hours, sanded up and will have to be cleaned out and recompleted. It is an offset to Signal Oil & Gas Co.'s first well drilled a little over a year ago, which came in with a tremendous gas pressure and approximately 400 barrels of oil, but soon slowed down to 150 barrels per day.

North American's well which came in from a depth of about 3008 feet, is situated in brown shale, which to San Joaquin valley geologists means that there is a possibility that it may be either a large producer or practically a total loss. The brown shale found in the Maricopa area is severely faulted, the structure lacking definition and closures such as are found in the brown shales of the North Dome of Kettleman Hills.

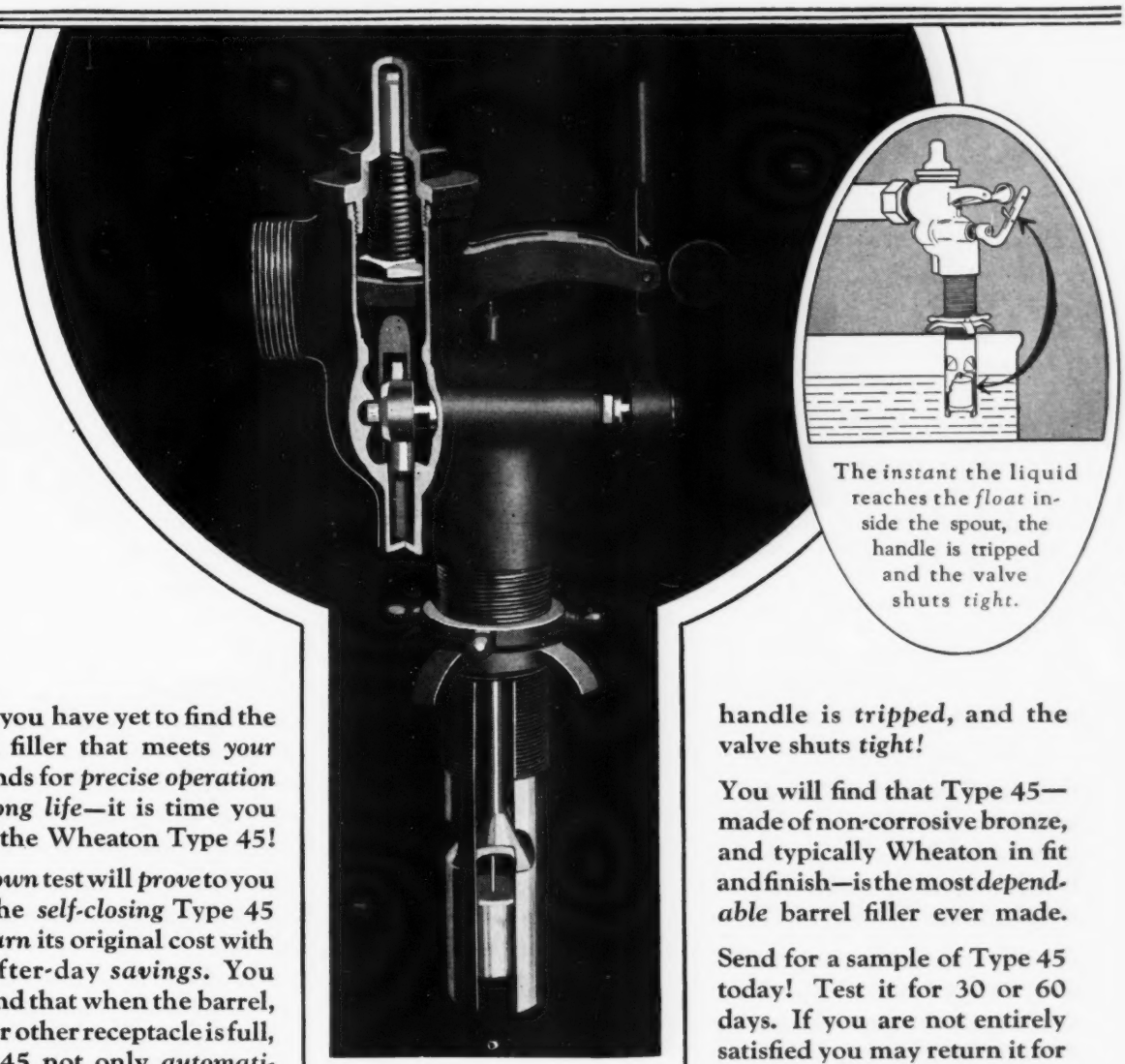
Mohawk Oil Co. completed its No. 4 in the Fruitvale district at 4158 feet for 500 barrels of 19 gravity oil.

Added production is due very shortly in the Kettleman Hill district, according to several operators. Standard Oil Co.'s No. 81 is drilling ahead below 6350 feet and expects to find a showing of the oil sand within the next few hundred feet.

Correction

On page 49, NATIONAL PETROLEUM NEWS for June 19, appeared a picture identified as Herb Schaffer, district foreman for the Amerada Petroleum Corp. and Chairman of the Seminole chapter of the A.P.I. Division of Development and Production Engineering. The picture is Mr. Schaffer, all right, and he is chairman of the Seminole chapter of the A.P.I. Division, but he is with the Pure Oil Co. not the Amerada.

If you are looking for a BETTER Barrel Filler~



The *instant* the liquid reaches the *float* inside the spout, the handle is tripped and the valve shuts *tight*.

IF you have yet to find the barrel filler that meets *your* demands for *precise operation* and *long life*—it is time you knew the Wheaton Type 45!

Your own test will *prove* to you that the *self-closing* Type 45 will *earn* its original cost with day-after-day *savings*. You will find that when the barrel, tank or other receptacle is full, Type 45 not only *automatically* shuts off, but that the very *instant* the liquid reaches the *float* inside the spout, the handle is *tripped*, and the valve shuts *tight!*

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Send for a sample of Type 45 today! Test it for 30 or 60 days. If you are not entirely satisfied you may return it for credit or refund. Order today.

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FAUCETS · VALVES · JOINTS · COUPLINGS · FILLERS · NOZZLES · FITTINGS

Completions in Texas, Week Ended June 22, 1929

NORTH CENTRAL AND EAST CENTRAL

Anderson County

Company	Well Farm	Survey	Sec. & Blk.	Depth	Init. Prod.
Cosden et al	2-Douglas	Simpson		T.D. 3861	Dry

Brown County

Humble	23-Hodsett	Harris	Blk-784	T.D. 2284	Dry
Green	4-Hill	Walker	Sec-8	T.D. 865	Dry
Cranfill-Reynolds et al.	1-Moss	Fuggle	Blk-62	T.D. 1340	Dry
Burtner et al	2-Wise	Clark	Blk-13	T.D. 678	Dry
Beall-Gulley-Michell	1-Hornslee	Curlong	Blk-151	T.D. 1378	Dry

Callahan County

York Pet	4-Kile	TE&L	Sec-2280	417-420	1
Moutray	21-Hatchett	D&DA	Sec-24	369-384	30
Texas	27-Hatchett	D&DA	Sec-24	385-394	50
Texas	28-Hatchett	D&DA	Sec-24	350-386	75
Grass Roots	4-Conlee	Comal Co. Sch. Ld.		T.D. 478	Dry
Breeman	1-Biggerstaff	SP	Sec-310	T.D. 688	Dry

Coleman County

McCaney et al	1-Smith	GH&H	Sec-35 Blk-1	T.D. 3205	Dry
Foster et al	2-Overall	GH&H	Sec-71	T.D. 2350	Dry
Cont. et al	6-Overall	Barkley	Blk-701	2170-2180	7½M
Stepp et al	2-Shore	GH&H	Sec-72 Blk-1	937-945	1.4M
Taylor-Linke	1-Huddleston	ET	Sec-105	684-685	200
Roth-Faurot	1-Nixon	Burnett Co. Sch. Ld. Sec-50 Blk-703		2942-2945	2½
Eastland	3-Morris	Webber	Sec-14 Blk-722	1991-2002	10¼M & 400
Eastland	1-Keiney	Cochran	Blk-269	1992-1999	870

Cherokee County

Humble	1-Holt	Oliphant		T.D. 3778	Dry

Eastland County

Superior	2-McClelland	SP	Sec-466	T.D. 3840	Dry
Mayes et al	1-Morton	H&TC	Sec-9 Blk-4	T.D. 1908	Dry
Gholson et al	1-Mills	Scranton		T.D. 1360	Dry
Price et al	3-Holcomb	House		T.D. 1598	Dry
Texas	1-Littleton	White		T.D. 3475	Dry

Freestone County

Noosier et al	1-Nussbaum & Co.	Sweet		T.D. 3319	Dry

Runnels County

Pure	3-Griesecke Bros.	Hughes	Blk-227	T.D. 1830	Dry

NORTH TEXAS

Archer County

Maxon Jr.	4-Green	Levins		1095-1104	7
Humble	2-Kunkel	BBB&C		1163-1184	322
Gulf Prod.	5-Ward Bros.	BBB&C		1026-1031	4
Gilliland	4-Neimeyer	TE&L		1424-1433	25
Continental	1-Falls Co. Sch. Ld.	FCSL	Blk-15	1102-1118	90
Brown-Farm	4-Brown	SP		1575-1582	21
Continental	1-Falls Co. Sch. Ld.	FCSL	Blk-16	1113-1125	8
Underwood Drlg.	3-Andrews	TE&L	Sec-1805	T.D. 954	Dry
Perkins-Cullum et al.	1-Andrews	Carson	Blk-143	T.D. 1512	Dry
Hines	1-Dowlen	H&TC		T.D. 1707	Dry
Golding	1-Bloodworth	Cartwright		T.D. 1239	Dry

Montague County

Roberts et al	1-Grimms	Raney	Blk-23	T.D. 1985	Dry

Wichita County

Ryan	1-Hamilton	Beckham		T.D. 1938	Dry
Newberry	1-Frankel et al.	Waggoner Colony	Blk-327	T.D. 1672	Dry
Hines	5-Burnett	Meade		1390-1406	70
Golding-Cochran	3-Waggoner Bros.	George	Blk-22	1287-1305	130

Wilbarger County

Phillips	U-2-Waggoner	H&TC	Sec-44 Blk-4	1887-1888	87
Grayback Dev.	3-Waggoner	H&TC	Sec-10 Blk-4	1990-1998	70
Goldine-Cockran	H-5-Waggoner	H&TC	Sec-32 Blk-4	2405-2409	100
Fain-McGaha	S-33-Waggoner	H&TC	Sec-24 Blk-4	2340-2346	50
Empire	C-4-Waggoner	H&TC	Sec-25 Blk-4	1907-1909	78
Empire	C-3-Waggoner	H&TC	Sec-25 Blk-4	2395-2400	26
Easter	C-3-Waggoner	H&TC	Sec-25 Blk-4	1914-1919	150
Derby	C-3-Waggoner	MEP&P	Sec-43	2383-2397	130
Clark	2-Waggoner	H&TC	Sec-25 Blk-4	1985-1998	82
Burtin	J-1-Waggoner	H&TC	Sec-9 Blk-4	1991-1999	75
Burtin	I-2-Waggoner	MEP&P	Sec-40	1848-1871	298
Murchison et al.	1-Murphy	McKinney		T.D. 2216	Dry
Maer-Staniforth	1-Waggoner	H&TC	Sec-9 Blk-4	T.D. 2010	Dry
Grayback Dev.	1-Waggoner	H&TC	Sec-49 Blk-4	T.D. 1850	Dry

Young County

Bratcher	8-Edwards	Tynes		T.D. 510	Dry
Kleiner et al	28-Langston	TE&L	Sec-1490	T.D. 569	Dry
Underwood Drlg. et al.	1-Bagley	Franklin		T.D. 650	Dry
Robertson Drlg.	1-Calvin	Rohus		T.D. 650	Dry
Kimbrell-Lyles et al.	5-Dyer	Stroud		T.D. 611	Dry
Shappell	6-Garrett	TE&L	Sec-1487	589-598	10
Pet. Prod	1-Whitt	TE&L	Sec-160	1022-1025	25

PANHANDLE

Carson County

Gulf Prod	6-Noel	I&GN	Sec-198 Blk-3	3248-3265	240

Gray County

Champlin	1-Coble	H&GN	Sec-33 Blk-B-2	2869-2910	560
Oper. Oil Co	7-Jackson	H&GN	Sec-88 Blk-B-2	2960-2963	14
Sun	1-Purviance	H&GN	Sec-61 Blk-B-2	2866-2914	918
Texas	6-Chapman	H&GN	Sec-51 Blk-25	2812-2840	435
Travis et al	2-Back	H&GN	Sec-44 Blk-25	2625-2628	135

Hutchinson County

Marland	1-Sanford	H&TC	Sec-79 Blk-46	2782-2786	2883
Phillips	5-Johnson	Whitley	Tract-1	2928-2943	135
Phillips	4-Whittenburg	Whitley	Tract-1	2875-2903	402

Lipscomb County

Snyder et al	1-Barton	H&TC	Sec-504 Blk-43	T.D. 4775	Dry

Moore County

Canadian River	1-Kilgore	EL	Sec-18 Blk-PMc	3480-3505	27M

WEST TEXAS

Reagan County

Oberholtzer	1-Talley	GC&SF	Sec-6	T.D. 3012	Dry

Wheeler County

Lone Star	1-Griswold	H&GN	Sec-1 Blk-24	1870-1880	52M
Lone Star	1-Ridinger	H&GN	Sec-65 Blk-17	1885-1889	7M
Upham	1-Gootch	H&GN	Sec-81 Blk-23	1510-1525	25M

Completions in North Louisiana and Arkansas, Week Ended June 20, 1929

Louisiana—Caddo Parish

Company	Well	Location	Depth	Yield
Shreveport Oil Corp.	Muslow No. 3	32-21-15	1650	10 bbls.
Standard Oil Co	Hunter Estate No. 2	8-19-14	2418	70 bbls.

Bossier Parish—Elm Grove

Palmer Corp	Whitehurst No. 5	35-16-12	875	dry, abnd.
Triangle Drilling Co	J. H. Fullilove No. 1	11-17-12	1717	4M gas

Sabine Parish—Pleasant Hill

Ark. Fuel Oil Co	Logan No. 13	32-10-12	3300	10 bbls.

Franklin Parish

Ruston Drilling Co	West Va. Lbr. Co. No. 1	23-15-7E	3500	dry, abnd.

Richland Parish

Southern Carbon Co.	Tegola No. 1	4-15-6E	2473	46M gas
Magnolia Pet. Co	M. L. McCoy No. 2	29-16-6E	2401	5M gas
Magnolia Pet. Co	C. M. Noble No. 2	36-16-5E	2438	32M gas
Northern La. Nat. Gas Co.	Boykin No. 1	20-17-6E	2350	70M gas

Ouachita Parish

Company	Well	Location	Depth	Yield
Magnolia Pet. Co	U. S. Govt. No. 2	30-19-5E	2412	800,000 ft. gas

LaSalle Parish—Urania

Gardner, Harter & Brown	Harper No. 11	26-10-1E	1508	75 Bbls.

East Texas—Panola County

Adams & Waller	Adams No. 5	Co-Ord F-16	2726	8M gas

Arkansas—Ouachita County

Phillips Pet. Co	Scott No. 1	34-15-15	1990	200 bbls.

Union County—Rainbow City

Lion O. R. Co.	Rowland No. 5	15-17-14	2700	sw aband.
Lion O. R. Co.	Stowe No. 1	4-17-14	3313	sw aband.
Magna Prod. Co.	El Dorado Realty 2-B	8-17-13	3084	sw aband.
Ohio Oil Co	L. S. Adams No. 2	12-17-14	3016	5M gas
Pure Oil Co.	M. H. Nash No. 2	7-17-13	3040	770 bbls.

Union County—Smackover

Simmons et al	T. Green No. 1	3-16-16	2601	junked, aband.
Sam Sklar, Trustee	Murphy No. 5	9-16-15	1986	junked, aband.
Magna Prod. Co.	Murphy No. 1	15-16-15	2070	15 bbls.

Completions in Oklahoma and Kansas, Week Ended June 22, 1929

OKLAHOMA

Carter County

Company	Well No.	Location	Depth	Init. Prod.
Magnolia	3	NW SE SE 23-1-3 W	2354-2427	15
Gypsy	2	CSL NW SW 28-2-3 W	T.D. 2323	Dry

Creek County

Collins et al	2	NEc SW SW 12-17-11 E	1192-1201	20
Magnolia	21	SE SW SE 8-18-7 E	2588-2654	20

Garvin County

Gilcrease-Douglas	1	SE NW NE 36-3-3 W	T.D. 4697	Dry

Jefferson County

Church-Brown	1	SE NE NW 16-5-8 W	T.D. 3001	Dry

Kiowa County

Alexander et al	3	SEc SW SW NE 18-6-16 W	T.D. 601	Dry

Okfuksee County

Independent	2	NWc SW NE 22-12-11 E	T.D. 2902	Dry

Okmulgee County

Rounsaville	3	CEL NW SE 30-12-12 E	1884-1939	25
Wheeler et al	1	SEc 31-16-12 E	2185-2195	14M

Osage County

Harland	83	NEc SE SW 21-25-11 E	1703-1731	35
Phillips	2	SWc NE NW NW 28-25-12 E	1600-1699	12
Billingslea	2	CEL NW 6-23-9 E	2125-2161	10
Braden-Moore	15	NEc SW SW NE 12-21-8 E	602-608	15

Pawnee County

Hay et al	2	NE SW SW 26-20-9 E	2048-2054	530

Payne County

Texas	1	NEc NW 5-17-5 E	3600-3616	50

Pottawatomie County

Slick-Amerada	1	NEc SE 19-6-4 E	3606-3682	4000
Houston	1	NE NW SW 17-7-4 E	4145-4233	1410
Amerada	1	NEc SW 16-7-4 E	3668-3770	50
Panther	3	SE SW SW 14-7-4 E	T.D. 35	Dry

Seminole County

McCullouch	1	SE SW SE 18-9-7 E	T.D. 4384	OWD Dry

Stephens County

Amer. Pipe Line	6	SEc NW 34-1-8 W	1845-1858	75
Franklin	2	SW NW NE 12-1-4 W	2794-3187	60
Ven-Mex & Mid-Cont.	2	NEc NW NW NE 2-2-8 W	2212-2219	80
Pace et al	3	NWc SW 18-2-7 W	1418-1426	50
Pace et al	4	NEc SE NW NE 13-2-8 W	1458-1463	70

KANSAS

Butler County

Empire	8	NW NE SE 22-27-5 E	2732-2769	150
Empire	1	NE SW SW 11-27-5 E	T.D. 2784	Dry

Coffee County

Cross et al	1	NWc NE 17-23-14 E	T.D. 1755	Dry

Cowley County

Blankenship-Washoma	1	SE SW NE 16-32-4 E	T.D. 3314	Dry

Greenwood County

Independent	3	NE NW SE 19-23-10 E	T.D. 2316	Dry
White	8	CSL SE NW 35-25-10 E	1966-1998	70
Shell	1	NEc NW 22-22-12 E	1710-1722	10
Empire	1	SEc SW 15-22-12 E	1717-1732	50

Lyon County

State-Spencer	1	SWc 33-21-11 E	T.D. 2055	Dry

Morris County

General Utilities	1	SW SE NE 15-16-7 E	487-492	.5M

Completions in California, Week Ended June 15, 1929

Long Beach

Company	Well No.	Location	Depth	Init. Prod.
Coombs, E. E.	Hope 1	....	7184	120
Delany Pet. Corp.	Stevens 1	....	6670	340
Richfield Oil Co.	Bernstein 2A	....	7555	2730
Richfield Oil Co.	Freeman 5	....	5938	125
Rotary Oil Co.	Jumbo 1	....	5413	75
The Texas Co.	Harlow-Kent 11	....	7485	35

Santa Fe Springs

Associated Oil Co.	Jordan 2	....	6850	9320
Getty, Geo. F.	S. F. 35	....	4550	35
Italo Pet. Corp.	Archer 2	....	6925	1800

Seal Beach

Associated Oil Co.	Hellman 3	....	5474	540
Standard Oil Co.	San Gabriel 22	....	5315	530
Standard Oil Co.	San Gabriel 20	....	5575	1201

Brea-Olinda

Company	Well No.	Location	Depth	Init. Prod.
Shell Oil Co.	Orange 18	....	5279	200

Ventura Avenue

Associated Oil Co.	Hartman 17	....	7071	640
Shell Oil Co.	Taylor 2	....	7150	340

Kern Front

Chanslor-Canfield-Midway Oil Co.	Midway 25	....	2208	150
Chanslor-Canfield-Midway Oil Co.	Midway 6	....	3300	350
Standard Oil Co.	No. 224	Sec 1-32-23	2656	150

Mt. Poso Creek

General Pet. Corp.	Glide 26	21-27-28	1632	275

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended June 22, 1929

OKLAHOMA

Caddo County

Company	Well No. & Farm	Location
English Drlg.	1-Huron	C NW SE 26-6-10 W

Creek County

Pioneer	1-Williams	SEc SW 26-14-9 E
Collins	2	CNL SE SW 12-17-11 E
O'Hare et al	1-Mathews	NEc SW NW 27-18-11 E

Grady County

Meridian	1-Ridley	C S½ SE 25-4-8 W

Grant County

Argo	2-Howell	SEc 22-27-3 W

Hughes County

Jarvis-Holms	3-Street	SE SW SW 21-7-8 E
Gypsy et al	1-Long	NWc SE 14-8-9 E
Stecklebury	1-Lowery	NWc 19-9-10 E

Kiowa County

Cummings et al	2-Prough	SEc NE SE SW 18-6-16 W

Logan County

Shell	10-McCully	NE NW SE 30-19-4 W
Shell	1-Storey	SEc SW 30-19-4 W
Shell	6-Sebranek	SE SW NE 20-19-4 W

Noble County

Company	Well No. & Farm	Location
Mid-Cont. Pet.	15-Case	NEc SW NW 29-24-1 W
I. T. I. O.	1-McCormick	NEc SE 33-21-1 W

Oklahoma County

Cromwell et al	2-Trosper	SWc NW SE NW 12-11-3 W

Okmulgee County

Marquette et al	6-Williams	NWc NE NE 22-13-12 E	OWD
Wheeler et al	2-Fish	NEc 6-15-12 E	

Osage County

Peters-Prod. & Ref.	1	SEc 19-26-7 E
White Eagle	1	NW NE SE 23-26-7 E
Texas	7	NEc SW SE 30-25-8 E
Kay County Gas Co.	7	NW SW NE 22-24-7 E
Stoner Bros. et al	4	CSL NW 31-24-9 E
Continental	4	SWc NE SE 5-23-9 E
Braden-Moore	16	SWc SE SW NE 12-21-8 E
Gray	9	CEL W½ NE 28-20-11 E

Payne County

Twin State	1-Penny	SEc SW SE 25-19-4 E
Deep Rock	2-Cole	SEc NE 10-18-4 E

(*Continued on Page 54*)

New Field Operations in Oklahoma, Kansas, North, North Central, East Central, Panhandle and West Texas, Week Ended June 22, 1929

(Continued from Page 53)

Pontotoc County

Company	Well No. & Farm	Location
Benedum-Trees	5-Mole	NE SE NE 31-5-5 E
Benedum-Trees	1-Lowery	NE SW NE 31-5-5 E
Benedum-Trees	1-Coker	SW NW NW 31-5-5 E
Benedum-Trees	1-Molly	SEc SW 30-5-5 E

Pottawatomie County

Erwin-Martin et al.	3-Kelly	NW NE NE 2-7-4 E
Twin State	1-Rhodd	SW SE NE 8-7-4 E
Darby	2-Nixon	SE SW SW 9-7-4 E
Mid-Continent	1-Robbins	SW SE SW 9-7-4 E
Mid-Continent	2-Robbins	SEc SW 9-7-4 E
Magnolia	2-Caudle	SW NW SW 13-7-4 E
Darby	4-Youngblood	NW NE NW 16-7-4 E
Darby	5-Youngblood	SW NE NW 16-7-4 E
Minnehoma	2-Simms	SE NE SE 16-7-4 E
Houston	4-Wyatt	NWc SW 17-7-4 E
Sinclair	6-Neeley	NE SW SW 25-7-4 E
Sinclair-Mid-Cont.	1-Cummings	SE NE SE 6-7-5 E
Shaffer	1-Adams	NWc NE 11-6-3 E
Slick	1-Alexander	NE NW SE 19-6-4 E
Slick-Amerada	2-Walker	SE NE SE 19-6-4 E
Slick-Amerada	3-Walker	SW NE SE 19-6-4 E
Slick-Amerada	4-Walker	NW NE SE 19-6-4 E
Indep.-Margay	1-Crain	SE SW NE 8-7-4 E

Seminole County

Continental	4-Johnson	NE SE NW 18-9-7 E
Continental	3-Johnson	NW SE NW 18-9-7 E

Stephens County

Carter	6-Carter et al.	SWc NE SE 21-3-5 W
Pace et al.	1-Marks	SW NE SE 13-2-8 W

Tulsa County

Brooks Drlg.	4-Hawkins	NWc SE NW SW 29-19-12 E

Woods County

Peerless et al.	1-Cromwell	C SW SE 14-28-16 W

KANSAS

Butler County

Empire	1-Nixon	SW SE SE 15-27-5 E
National Ref.	1-Guinn	SW NW NW 2-25-5 E
Empire	10-Cranston	SW SE SE 22-27-5 E
Leonard Pet.	6-Kenney	NE SW SE 29-26-5 E

Cowley County

Rider et al.	1-Franks	NE NW NW 30-31-5 E

Dickinson County

Cress et al.	1-Meuli	NEc 12-15-2 E

Greenwood County

Gordon-State	1-Blakely	SWc NE 3-22-11 E
Empire	2-Edwards	NW SE SE 21-23-11 E
Empire	2-Norton	NE NW NE 22-22-12 E
Texas	6-Edwards	NE SW SE 21-23-11 E

Marion County

Tidal	2-Ewert	NE SW SW 7-19-3 E

TEXAS
NORTH CENTRAL AND EAST CENTRAL

Brown County

Company	Well No. & Farm	Location	Survey
Humble	13-Byler	Blk-43	T&NO
Stout-Crab-McNeil	1-Gaines	.....	Jordan
Janellen	1-Wallace	Blk-103	Jackson
Caldwell et al.	5-Caldwell	Sec-15 Blk-277	Kerr Co. Sch. Ld.
Caldwell et al.	4-Caldwell	Sec-15 Blk-277	Kerr Co. Sch. Ld.
Cranfill-Reynolds	1-Robertson	Blk-3	SA&MG

Callahan County

Woodley	4-Finley	Sec-74	BOAL
Warren et al.	1-Jackson	Sec-21	ET

Coleman County

Owens et al.	1-Woodruff	Sec-57 Blk-272	Bynum
Owens et al.	1-Parker	Sec-46 Blk-666	Doran
Taylor Linke	1-Williamson	Sec-105	ET
Taylor Linke	1-McClure	Sec-105	ET
Preston	1-McAdams	Blk-244	Frazier
Nolan	1-Mosley	Sec-61	HT&B
Eastland et al.	7-Morris	Sec-24 Blk-722	Webber
Cont.-Atlantic et al.	5-Overall	Blk-700	Barkley
Continental et al.	12-Overall	Sec-9	GH&H
Anzac et al.	1-Guthrie	Blk-112	Guthrie
Wetherell	1-Beck	Blk-99	TE

Cherokee County

Humble	3-Elliott et al.	.....	Windsor

Concho County

Turner et al.	1-Brosig	Blk-1	Simms

Eastland County

Belva	8-Goode	Sec-56	BBB&C
Dyar Bros.	2-Cunningham	.....	Epperson
Southern Oil & Prod.	1-Webb	Sec-26 Blk-2	H&TC
Moore-Lewis	2-Foster	Sec-27 Blk-2	H&TC
Meyers	1-Byrd	Sec-30 Blk-2	H&TC

Erath County

Cranfill-Reynolds	1-Gibson	Blk-7	Bishop

Hill County

Harper et al.	1-Jones	.....	Graves

Jack County

Dorian	1-Moore	.....	Berryman

NORTH TEXAS

Archer County

Johnson-Frazier	1-Graham	.....	Gibenrath
Continental	4-Richardson	Blk-10	McCoy
Humble et al.	2-Logan	Blk-26	Taylor
Bridwell-Cont'l	2-Logan	Blk-25	Taylor
Moran-Prairie	1-Richardson	Blk-14	McCoy
Turner	1-Lyles	Sec-2	SP
Gwynn	3-Thompson	Sec-20 Blk-16	ATNCL
Payne et al.	4-Parrish	.....	SP
Empire	1-Parkey	Sec-2	SP

Cooke County

Company	Well No. & Farm	Location	
Rowe-Hinkle	1-Wells	.....	Mebane
Petroleum Prod.	1-Gwynn	.....	Marshall Univ.
Texas	1-Emby	.....	Rogers

Grayson County

Murchison-Sun	1-Guillond	.....	Ingram

Montague County

Heydon	1-Nail	Blk-20	Jack Co. Sch. Ld.

Wichita County

Riner-Bailey	7-Michie	.....	Netherly
Riner-Bailey	1-Michie	.....	Netherly
Hammon	2-Bradley	.....	Holloway
Texas	6-A-Waggoner Bros.	Blk-29	George
Texas	7-A-Waggoner Bros.	Blk-28	George
Hines	6-Burnett	Blk-6	Meade
Gulf Prod.	9-Jennings et al.	Sec-8	HT&B
Gulf Prod.	12-Jennings	Sec-12	HT&B
Texas	362-Waggoner	Sec-13	HT&B
Texas	360-Waggoner	.....	HT&B

Wilbarger County

Bradstreet-Grisham	1-Waggoner	Sec-37 Blk-4	H&TC
Texas	363-Waggoner	Sec-13 Blk-4	H&TC
Texas	364-Waggoner	Sec-7 Blk-13	H&TC
Derby	E-1-Waggoner	Sec-8 Blk-4	H&TC
Staley-Wynne	G-7-Waggoner	Sec-32 Blk-4	H&TC
Staley-Wynne	G-6-Waggoner	Sec-32 Blk-4	H&TC
Staley-Wynne	G-5-Waggoner	Sec-32 Blk-4	H&TC
Empire	B-16-Waggoner	Sec-32 Blk-4	H&TC
Empire	B-15-Waggoner	Sec-32 Blk-4	H&TC
Empire	B-14-Waggoner	Sec-32 Blk-4	H&TC
Empire	B-13-Waggoner	Sec-32 Blk-4	H&TC
Waggoner	J-4-Waggoner	Sec-25 Blk-4	H&TC
Phillips	5-Norwood et al.	Sec-13 Blk-4	H&TC
Phillips	DD-3-Waggoner	Sec-42 Blk-4	H&TC
Phillips	5-Waggoner	Sec-18 Blk-4	H&TC
Golding-Cockran	H-6-Waggoner	Sec-32 Blk-4	H&TC
Ven Mex	1-Waggoner	Sec-16 Blk-4	H&TC
Consolidated	O-4-Waggoner	Sec-40	MEP&P
Wichisan	1-Waggoner	Sec-21 Blk-4	H&TC
Peckham	A-1-Waggoner	Sec-21 Blk-4	H&TC
Shaw	G-5-Waggoner	Sec-40	MEP&P
Grayback Dev.	5-Waggoner	Sec-40	MEP&P
Grayback Dev.	4-Waggoner	Sec-40	MEP&P
Grayback Dev.	3-Waggoner	Sec-40	MEP&P
Grayback Dev.	2-Waggoner	Sec-40	MEP&P
Staley-Wynne	Y-1-Waggoner	Sec-30 Blk-4	H&TC

Young County

Clarida-Bratcher	1-Johnson	.....	Sergeant
Robertson Drlg.	5-Gilmore	Blk-14	YCSL
Wise-Jackson et al.	2-Snider	.....	Wilson
Steed-Gans	1-Snider	.....	Wilson

PANHANDLE

Carson County

Midwest Explor.	3-Cooper	Sec-5 Blk-9	I&GN
Gulf Prod.	7-Noel	Sec-198 Blk-3	I&GN
Gulf Prod.	1-Garner	Sec-106 Blk-4	I&GN

Gray County

Skelly	3-West Jackson	Sec-90 Blk-B-2	H&GN
Skelly	2-East Jackson	Sec-62 Blk-B-2	H&GN
Skelly	2-West Jackson	Sec-90 Blk-B-2	H&GN
Skelly	1-East Jackson	Sec-62 Blk-B-2	H&GN
Magnolia	1-Wright	Sec-13 Blk-3	I&GN
Phillips	4-Palmer	Sec-31 Blk-B-2	H&GN
Phillips	6-Jackson	Sec-88 Blk-B-2	H&GN
Texas	11-Saunders	Sec-3	B&B
Texas	9-Bowers	Sec-89 Blk-B-2	H&GN
Texas	10-Bowers	Sec-89 Blk-B-2	H&GN
Texas	2-Worley	Sec-36 Blk-3	I&GN
Texas	1-Jackson	Sec-60 Blk-2	H&GN
Gulf Prod.	3-Jackson	Sec-62 Blk-B-2	H&GN
Gulf Prod.	4-Jackson	Sec-62 Blk-B-2	H&GN
Osborne et al.	1-Morse	Sec-1 Blk-26	H&GN
Champlin	1-Jackson	Sec-60 Blk-B-2	H&GN

Hutchinson County

Marland	2-Reeves	Sec-31 Blk-47	H&TC

Wheeler County

Angus et al.	1-Lurkey	Sec-126 Blk-23	H&GN
Upham	2-Gootch	Sec-81 Blk-23	H&GN
Fain-McGaha-Humble	2-Binkley-Cain	Sec-55 Blk-24	H&GN

Glasscock County

Houston	1-McDowell	Sec-30 Blk-33	T&P
Kirby et al.	1-Baker	Sec-23 Blk-33	T&P

Howard County

Cosden	5-Roberts	Sec-129 Blk-29	W&NW

Irion County

Crawford et al.	1-Williams	.....	Gonzoles Co. Sch. Ld.
Webb et al.	2-Nutt	.....	Gonzoles Co. Sch. Ld.

Mitchell County

California	1-Handley	Sec-1 Blk-28	T&P

Scurry County

Texas-Canadian	1-Wright	Sec-379 Blk-97	H&TC
Cottingham-Briscoe	1-Truss	Sec-427 Blk-97	H&TC

Ward County

Gulf Prod.	1-Wristen	Sec-18 Blk-5	H&TC

Winkler County

Southern Crude	T88M33-Hendricks	Sec-33 Blk-26	PSL
Southern Crude	T88M34-Hendricks	Sec-33 Blk-26	PSL
Southern Crude	T89L1-Hendricks	Sec-15 Blk-B-12	PSL

What California's Gas Conservation Law Means to Our Industry

By Lester C. Uren
Professor of Petroleum Engineering, University of California

AFTER mature deliberation and cooperative study by oil industry and state officials, a new law has been added to the California statutes which promises to materially influence the future production of both natural gas and oil in that state.

Two years ago, the Governor of California took cognizance of gas wastage resulting in the production of petroleum in certain fields, and appointed a committee with instructions to cooperate with the industry in seeking for a remedy. This committee had the hearty cooperation of the more stable elements of the oil industry in California. Engineering studies were made of the situation in the more critical areas and remedial measures proposed and even experimented with on a large scale.

These remedial measures took the form of back-pressuring wells to reduce gas-oil ratios, even shutting in the more serious offenders entirely, and of gas storage in partially depleted oil sands and other accessible sealed structures.

For more than a year, large volumes of gas have been forced back into natural subterranean reservoirs where it may be safely stored until needed at some future time, and in some cases, where it will aid in the production of residual oil that might not be otherwise producible. All of this work has been constructive in shaping opinion within the industry to a more favorable attitude toward conservation: an attitude which has now found expression in the new gas-conservation law.

The new law takes the form of an amendment to California's earlier conservation law, which was directed primarily toward the protection of oil-bearing horizons against water incursion. Under this earlier law, the California operators have, during the last 18 years, greatly profited through the activities of the state oil and gas supervisor's department, which has been functioning as a division of the California State Mining Bureau.

Having a well organized department of this character already active in the interests of the oil and gas industries, the enforcement of the provisions of the new law is naturally placed under the jurisdiction of the oil and gas supervisor's department, which, however, has now been divorced from the State Mining Bureau and established as a separate division within the state's recently created Department of Natural Resources.

It is understood that the new gas conservation law was drafted by a group of oil company attorneys and state officials along lines that have been indicated as generally desirable by the investigations that have been underway during the last two years, and that have received the endorsement of the Federal Oil Conservation Board during its four-year study of the conservation issue from the national standpoint. It will fit in as a necessary piece of legislation for control of the industry within the state, if an interstate compact recently proposed by the Federal Oil Conservation Board is consummated.

The new law came before the state legislature as an administrative measure, with the endorsement of all but a very small element of the industry, and was passed by both houses of the legislature without difficulty. It received the governor's signature on May 27 and became effective immediately. Credit for the enactment of this constructive measure is largely due to the interest of Governor Young, Director of the Department of Natural Resources Fred G. Stevenot, and Oil and Gas Supervisor R. D. Bush, who have had an active part in the gas wastage investigations that have been under way during the last two years.

While the new law, as printed, is a document of some 11,000 words, covering many details of law enforcement and interpretation, only certain portions of it that stand out as particularly significant, will be discussed here. Probably the most interesting provision is the following section, which may be regarded as the basic declaration of principle upon which the new law rests:

"The unreasonable waste of natural gas by the act, omission,

California Law Is Contribution To the American Nation

By C. C. Young
Governor of California

I FEEL that we are contributing to a conservation program national in scope and of particular importance to California.

A continued blowing of large amounts of natural gas into the air represents a waste of irrevocable values not alone as measured in heat and power values, but also the loss of an important factor in the recovery of oil.

The provisions of the act relate to the duties of the Department of Natural Resources as to the drilling and inspection of oil and gas wells and prescribes legal procedure looking to the abatement of all unnecessary waste of natural gas.

Particularly important is the legal encouragement and sanction given, whereby the oil and gas supervisor is permitted to authorize in the public interest, agreements entered into by operators in a given oil and gas producing area for the purpose of properly exploiting such areas.

The present bill is largely the result of a further desire on the part of the oil and gas industry in California to bring order to their business, through state regulatory measures as provided for in this measure. It has also been drawn with definite consideration for California's part in the national program of conservation to which President Hoover made so great a contribution as secretary of commerce, and in which we have been asked to cooperate further by the President and Secretary of the Interior Wilbur.

sufferance or insistence of the lessor, lessee or operator of any land containing oil or gas, or both, whether before or after the removal of gasoline from such natural gas, is hereby declared to be opposed to the public interest and is hereby prohibited and declared to be unlawful. The blowing, release or escape of natural gas into the air shall be prima facie evidence of unreasonable waste."

Were it not for the fact that the law is to be administered by a conservative and understanding group of state officials, this provision if literally applied, might seriously curtail the production of oil. Action of the oil and gas supervisor, however, is to be guided largely by what constitutes "unreasonable waste."

THERE must necessarily be some small leakage and waste of gas at every oil producing well. This the state must ignore as reasonable waste. It is only in cases where large volumes of gas may be conserved by measures that the operator may economically and reasonably be called upon to apply, that the supervisor will take action. When he does do so, the above provision of the law is sufficiently drastic to give him a full measure of support in any court action that may follow.

The law affords ample safeguard against arbitrary action by the supervisor, in providing that his decisions may be reviewed if the operators or lessors at interest so desire, by a district board of commissioners composed of operators annually elected within each of five different producing districts. These district boards are not new, but have been functioning under a provision of the earlier conservation law in a similar capacity, in arbitrating disputes between the supervisor and any operator concerned in his decisions.

The initiative in bringing state intervention in cases of gas wastage does not rest entirely with the oil and gas supervisor, for the new law provides also, that any person operating in any field where unreasonable waste of gas is occurring or is threatened, may file a petition with the director of the department of natural resources, who must then order the oil and gas supervisor to hold a hearing at which the parties at interest may present their case. On the conclusion of such a hearing, the law provides that:

". . . the supervisor shall determine whether or not there is an unreasonable waste of gas in said field, in existence or threatened, and shall determine the extent to which the waste of gas therein occurring or threatened is unreasonable. If it shall appear that gas is being produced from any well or wells in quantities exceeding a reasonable proportion to the amount of oil produced from the same well or wells, even though it is shown that such gas is being used in the generation of light, heat or power, or for other industrial purposes—the supervisor shall hold that such excess production of gas is unreasonable waste thereof—and an order shall be made directing that such unreasonable waste of gas shall be discontinued or refrained from to the extent stated in such order."

The foregoing is qualified by phraseology which allows the supervisor some latitude in making decisions which might result in shortage of gas for legitimate purposes, or which might result in an unbalanced ratio of gas to oil in other areas.

It will be noted that the provision just quoted in effect permits the supervisor (with the approval of the district board) to fix and enforce what he considers to be reasonable gas-oil ratios for individual wells or groups of wells. It is considered probable, however, that in exercising this function, the state officials would not undertake to prescribe maximum gas-oil ratios for individual fields without due regard to the structural position of wells, age of wells, field pressures and other factors that are known to influence the gas factor. Indeed, it seems unlikely that the state officials will interest themselves in the performances of individual wells, but will merely consider the over-all production of gas that each property or each operator may produce with the current production of oil.

Another provision of the law requires each operator to measure and report to the supervisor monthly, the quantity of gas produced by each operating well, in addition to its production of oil and water, which has been a requirement under the earlier conservation law. The volume of gas reported is to be estimated by such methods as the supervisor may prescribe, and the monthly report submitted by the operator must indicate what disposition has been made of the gas produced.

IT IS not the present intention of the oil and gas supervisor to require operators to provide gas-metering equipment for each well. Instructions now in preparation, will suggest a plan of grouping wells in such a way that a single meter may periodically measure the gas production of each well of the group in turn. The monthly reports thus submitted will enable the supervisor to prepare a monthly balance sheet showing the source and disposition of all gas produced in the state.

One aspect of gas wastage over which the oil and gas supervisor can have no supervision, is wastage by the gas utility companies, who with variable load requirements and contractual obligations with the producers, must at times purchase more gas than the market requires. Such gas, under existing conditions is released to the atmosphere. It is considered possible that the cooperation of the State Railroad Commission, having authority over the gas utility companies, may be sought in remedying this situation.

Another important provision of the new law specifically legalizes cooperative exploitation of fields by mutual agreement of individual operators. The phraseology of the law on this point is as follows:

"WHENEVER the state oil and gas supervisor shall find that it is in the interest of the protection of oil or gas from unreasonable waste, it is declared to be lawful for the lessor, lessee, operator or other persons, firms and corporations owning or controlling royalty or other interests in the separate properties of the same producing or prospective oil or gas field, to enter, with the approval of the state oil and gas supervisor, into agreement for the purpose of bringing about the development or operation of all or a part or parts of such field as a unit, or for the purpose of fixing the time, location and manner of drilling and operating wells for the production of oil or gas, or providing for the return of natural gas into the sub-surface of the earth for the purpose of storage or for the repressuring of an oil or gas field. Any such agreement shall bind the successors and assigns of the parties thereto in the land affected thereby, and shall be enforceable in an action for specific performance."

This provision of the law is designed to free the oil producers from the operation of the state's previously enacted anti-trust laws, and to make such agreements which would otherwise be in violation of law, enforceable by court action.

While there is nothing in the present law that might be construed as giving the state authority to compel minority operators in a field to enter into a cooperative agreement or unit operation that the majority of the operators might desire, the inter-relation of the various provisions of the law is such that pressure in this direction might easily be brought to bear. For example, a few months ago, a cooperative agreement of operators in the Santa Fe Springs field, that would have been in the interest of gas conservation, was defeated by 15 per cent of the operating interests in the field, though it was desired by the remaining 85 per cent.

The program proposed involved restriction of output by back-pressuring deep zone wells and repressuring partially depleted shallow zones with the surplus gas. Under the new law, the recalcitrant 15 per cent could probably be so penalized on the grounds of gas wastage and abnormally high

Photo by Underwood & Underwood

A section of the Signal Hill, Calif., field

gas-oil ratios, as to compel them to cooperate with the majority.

Another important provision of the new law gives the state oil and gas supervisor the right to supervise drilling operations in prospective or high-pressure areas where gas blowouts or loss of control of wells on encountering high gas pressures may result. The phraseology under this section of the law is as follows:

"It shall be the duty of the state oil and gas supervisor so to supervise the drilling, operation and maintenance and abandonment of petroleum and gas wells—as to prevent, as far as possible, damage to underground petroleum and gas deposits from infiltrating water and other causes of loss of petroleum and natural gas. It shall be the duty of any person, firm or corporation engaged in operating any petroleum or gas well in this state, where high pressure gas is known to exist—or in drilling for petroleum in any district where the pressure of petroleum or gas is unknown, to equip any such well with casings of sufficient strength and such other safety devices as may be necessary in accordance with methods approved by the state oil and gas supervisor, and to use every effort and endeavor to effectually prevent blowouts, explosions and fires."

THE enforcement features of the law provide that if any operator fails to comply with the requirements of the oil and gas supervisor, or in the event that these requirements are amended by a district board of commissioners, as so amended, the state may institute proceedings in the county superior courts and secure an injunction enjoining unreasonable waste of gas. It is provided in this connection, that in any court action, the previous decision of the supervisor or district board shall determine to what extent waste is unreasonable.

Fines of from $100 to $500 and/or jail sentence of as much as six months are also provided for any operator who in any way hinders or delays inspection of wells or enforcement of the law, or who fails to comply with any of the decisions of the supervisor or requirements of the law.

The law also provides for the support of the oil and gas supervisor's department, and specifies in detail the manner in which the necessary funds are to be raised by assessment of oil and gas producers and owners of productive acreage. The law provides that a total of not more than $275,000 may be assessed annually for this purpose.

It is considered improbable that the existing organization of the state oil and gas supervisor's department will have to be greatly modified to fulfill the duties arising out of the new law. The present supervisor, R. D. Bush, and his five deputies in different districts are to assume the additional duties specified, aided by engineers and inspectors attached to the various field offices of the department.

The total personnel of the department, including both technical and clerical assistance, has numbered about 50 during recent years. This number may be augmented slightly if necessary to fully meet the provisions of the new law.

The oil industry of California is fortunate in the present executive and technical personnel of the oil and gas supervisor's department. All are men of experience in the oil industry and men of adequate technical preparation to intelligently meet the problems that will arise in the enforcement of the new law. The industry may expect a conservative interpretation and enforcement of the law, with due regard to economic and practical limitations.

THERE has been considerable speculation in oil circles, concerning the effect that enforcement of the gas wastage provisions of the new law will have on oil production. A large unreasonable waste of gas doubtless exists in several California fields at the present time. Restriction of this wastage to reasonable limits can only be effected by storage of the gas, or by back-pressuring wells. The latter procedure will operate to reduce the current rate of both gas and oil production.

It seems doubtful that large-scale storage projects can be initiated at once—at least not to the extent of taking care of any large part of the gas surplus that is now being produced. Gas storage projects involve considerable expenditure in provision of pipe lines, compressor plants and in conditioning injection wells; furthermore, agreements have to be worked out concerning equities in the gas so stored. It is probable, therefore, that the immediate situation must be met by restriction of oil production. This, however, need not be drastic.

One engineer who has had an active part in conservation work during the last two years, has estimated that the entire gas wastage could be eliminated by curtailing the rate of pro-

duction to the average level of 1928. Any curtailment of this character that might result from enforcement of the new law, would, of course, be welcome to the larger interests in the California industry at this time. State officials, however, are anxious that enforcement of the law shall not result in undue increase in gasoline prices.

The fields that are particularly likely to receive the early consideration of the oil and gas supervisor's department include Santa Fe Springs, Long Beach, Ventura, Elwood and Kettleman Hills. The first three of these are producing large quantities of oil, and any restriction on gas production would necessarily result in a considerable reduction in oil production.

There is a large volume of shut in potential production in these and other California fields, however, and it may be that the state's over-all production will not be greatly influenced if this shut in production is partially released as reduction in the flush fields is secured.

An interesting situation is presented in the new Kettleman Hills field. Only the discovery well is producing in this field, but some 50 others are drilling or "rigging up," and within six months many will begin production unless artificially restrained. The productive horizon is deep and gas pressures are high. The discovery well was recently producing 3600 barrels of very light oil and 70,000,000 cubic feet of gas daily.

Although a 20-inch pipe line is now under construction to carry gas to the San Francisco Bay region, it will at first have a capacity of only 60,000,000 cubic feet daily. This would scarcely take care of the gas production of the discovery well. There are no other immediate opportunities for utilization of large volumes of gas within economic transmission radius, and if the wells are to be allowed to produce, the only alternative will be to make provision for gas storage on a very large scale.

Dry and porous formations overlying the oil sands in the Kettleman Hills field are being considered for this purpose, as well as possible repressuring of the old Coalinga field, some 15 to 25 miles distant. The latter project would doubtless result in recovering large volumes of residual oil that probably would not be otherwise available, though considerable sums would have to be expended in reconditioning wells, most of which are from 12 to 25 years old.

It seems unlikely that the new California conservation law will meet any serious opposition on the ground of unconstitutionality. It rests squarely upon the police powers granted the state in the prevention of waste of natural resources, and while it might in one sense be construed as a limitation on the property rights of individuals, oil company and state attorneys are of the opinion that there is little chance of it being declared unconstitutional should a test case be made. A recent report of the Federal Oil Conservation Board also called attention to the rights of the individual states in providing laws of this character.

State officials will doubtless have many difficult problems to meet in securing effective enforcement of the new law. They will, however, have a large measure of support and cooperation from the more responsible elements of the California oil industry.

All who have the best interests of the industry at heart will wish to see the law attain the maximum degree of success and effectiveness in oil and gas conservation. Many regard California's new law as a model that other oil-producing states might well emulate in working toward national control of oil production.

Two Richfield Executives Promoted

J. T. French

I. N. Randall

LOS ANGELES, June 21

C. M. FULLER, president of Richfield Oil Co. of California announces the appointment of I. N. Randall and J. T. French as assistants to the president, with headquarters in Los Angeles.

Mr. Randall entered the services of the company as branch manager at San Francisco, September 15, 1925, retaining that position until his present advancement.

Mr. French joined Richfield in July, 1927, as assistant manager of Lubricating Oil Department at Los Angeles, coming from the general offices of the Standard Oil Company of California, San Francisco.

He is particularly well known on the Pacific Coast as a lecturer on the subject of petroleum products and their use. He has talked to not less than 25,000 persons in 200 meetings a year in California and Nevada, speaking before employees of industrial concerns, civic clubs, colleges, chambers of commerce, etc., where he gave his talk known as "Know Your Oils."

Monterrey Gas Line Contract Made

HOUSTON, June 20.—United Gas Co. announces the signing of contracts with the Smith Bros. Construction Co., of Dallas, for the laying of a 125-mile pipeline from the Jennings field, Zapata county, Texas, to Monterrey, Mexico. The line will cross the Rio Grande boundary at Roma, proceeding on an airline to the northern Mexico industrial center.

Delivery of 12¾-inch, outside diameter, pipe for the line by Youngstown Sheet & Tube Co., is expected to begin within 10 days. The right-of-way has been taken and part of it cleared on the Mexico side of the river.

To conform with Mexican laws, the United Gas Co. has formed an operating subsidiary known as Compania Mexicana de Gas, S. A., which will transport and sell its product in the Aztec Republic.

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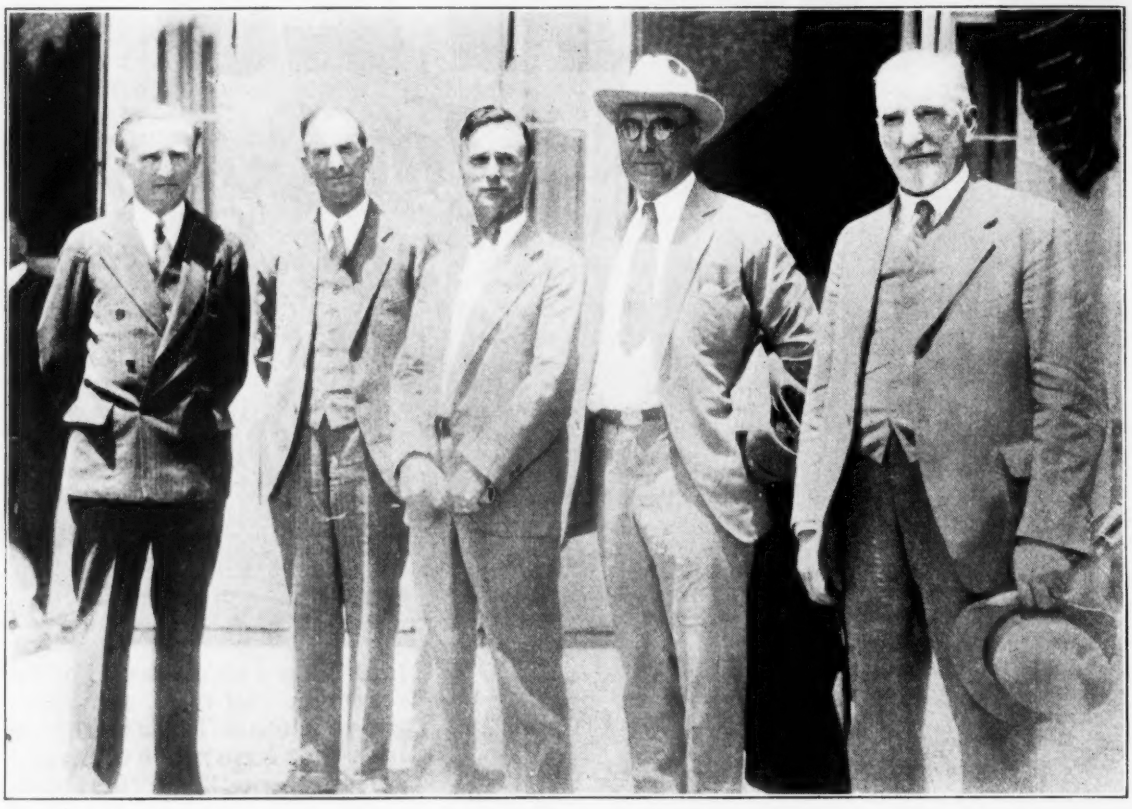
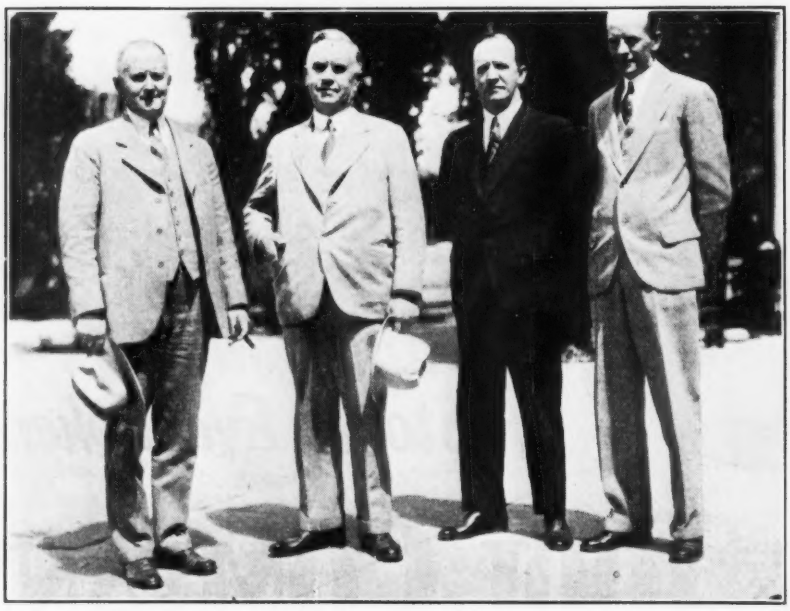


Part of the Wyoming delegation. Left to right, J. C. O'Mahoney, Cheyenne; John McFadyen, vice-president, Ohio Oil Co., Casper; A. M. Gee, general counsel, Mid-Kansas Oil & Gas Co., Tulsa (formerly of Casper); R. S. Ellison, vice-president, Midwest Refining Co., Casper and former Governor B. B. Brooks, Casper president of the Rocky Mountain Oil & Gas Association



Left to right are the three California delegates, W. J. Carr, railroad commissioner; W. S. Webb, attorney general and Fred G. Stevenot, state director of natural resources. The fourth is Reed Bush, state oil and gas supervisor

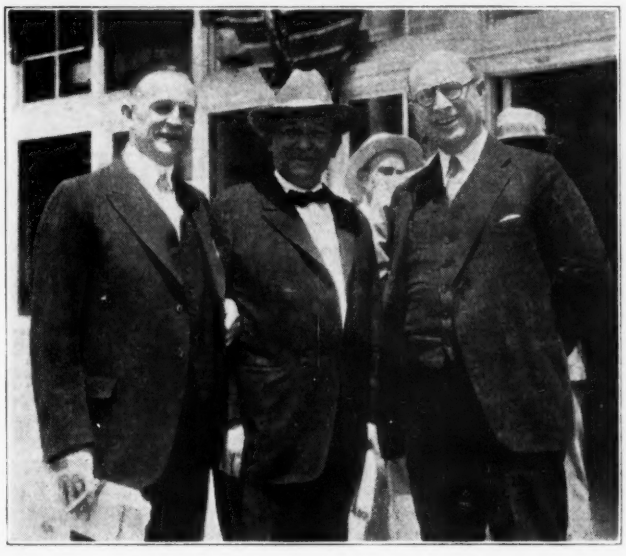
W. S. Fitzpatrick, chairman of the board of the Prairie Oil & Gas Co., was one of the American Petroleum Institute delegates

Governor Adams, of Colorado, welcomed the visitors to his state

Clark Kountz, vice-president of the Prairie Pipe Line Co.

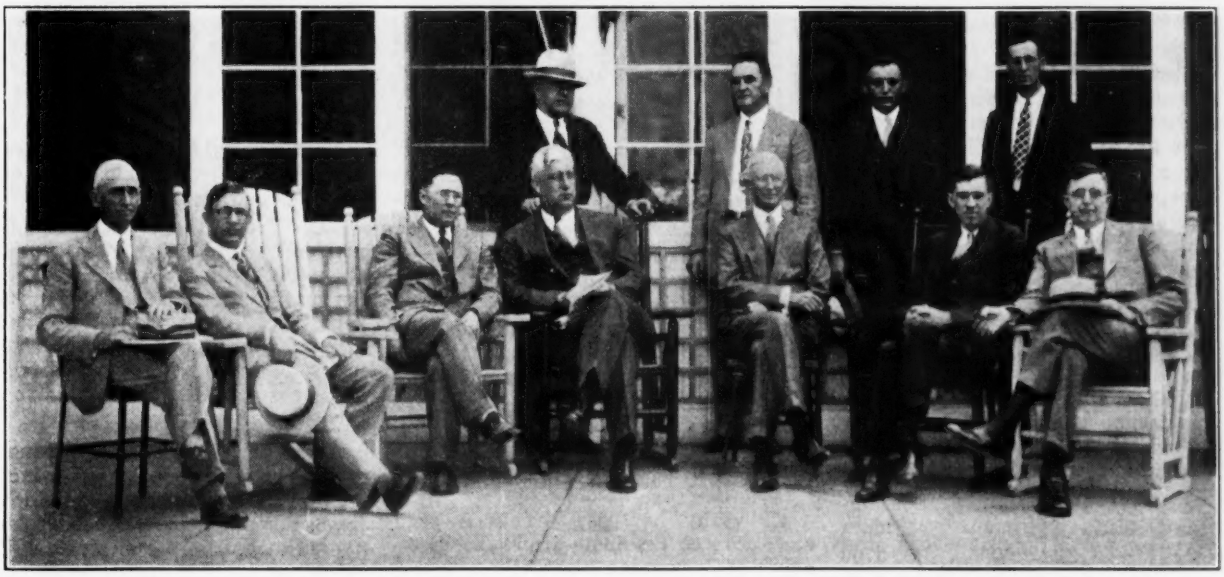
Ralph C. Holmes, president, The Texas Corp., who was a delegate from the A.P.I.

J. J. Cosgrove, general counsel of the Marland Oil Co., was one of the Oklahoma state delegation

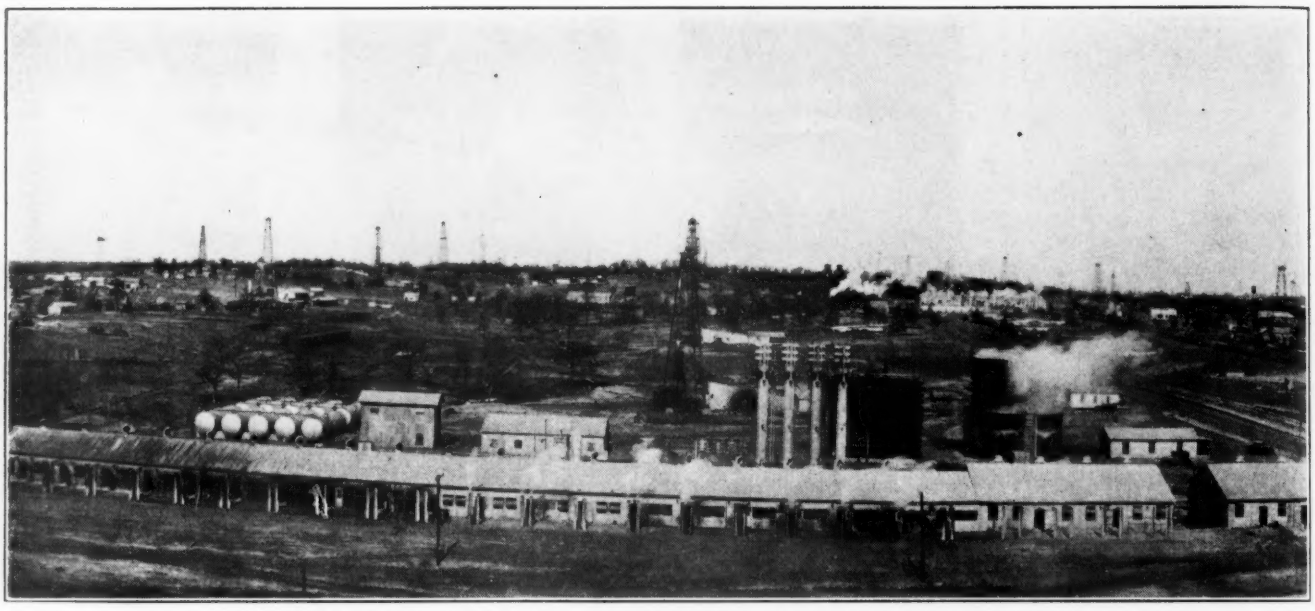


William R. Boyd, Jr., executive vice-president, American Petroleum Institute, New York; William H. Gray, president, National Association of Independent Oil Producers, Tulsa; Roy B. Jones, president, Panhandle Refining Co., Wichita Falls

Frank R. Coates, Cities Service Co., New York, an A.P.I. delegate



Some gentlemen from Oklahoma. Seated, left to right, George Strawn, Ardmore; Roy M. Johnson, Ardmore; W. R. Ramsey, Oklahoma City; J. J. Cosgrove, Ponca City; Dana H. Kelsey, Independence, Kans.; skip one; Burdette Blue, Bartlesville. Standing, same order, Fred S. Cook, Tulsa; Wirt Franklin, Ardmore



Independent Oil & Gas Co. combination gas lift and gasoline plant in the Little River pool

Gas Lift Practice of 15 Companies In Seminole District

Compiled by J. R. McWilliams*

As presented May 29 before the Tulsa meeting, Mid-Continent section, American Petroleum Institute Division of Development and Production Engineering

This paper has been prepared through the agency of sending a questionnaire to each of the major operators in the greater Seminole area and asking them to answer the questions dealing with gas lift practice at Seminole. In order to obtain frank answers to the questions it was agreed that the names of those answering the questions would not be used in connection with the paper.

Replies were received from fifteen companies, answering as many questions as they had data upon or formed conclusions. The answers to each question have been compiled and inserted after each question. The numbers shown in brackets in the answers signifies how many concurred in that specific answer. It should be understood that the answers represent Seminole conditions only and that the producing horizon referred to is the Wilcox, unless otherwise specified.

45. What is a minimum, average and maximum gas-oil ratio for natural flowing wells in each of the pools in the Greater Seminole Area?

	Minimum	Maximum
Searight	300	3700
Earlsboro	400	3300
Seminole	200	2700
"	600	5000
Bowlegs	300	2500
Little River	300	2700
" "	500	1200
Mission	200	2200
Maud	1000	3800
St. Louis	100	2000
Average	390	2910

	Minimum	Average	Maximum
Greater Seminole	350	1200	1600
" "	250	800	2000
" "	250	800	2000
" "	350	600	2000
Average	300	850	1900

46. Does the gas-oil ratio increase or decrease during the natural flowing life of a well?

Increases (9); we have had some wells where the gas-oil ratio decreased during their natural flowing life (1); the gas-oil ratio in the Maud area (Misener-Hunton) has been decreased by applying back pressure from 2600 to 1250 cubic feet per barrel of oil without decreasing the oil production.

Gas Lift Through Annular Area

47. Why has gas lift been such a success at Seminole from the viewpoint of increasing the daily oil production from the wells?

*Skelly Oil Co.

High saturation and porosity of Wilcox sand coupled with high rock pressures; low gas-oil ratio and high fluid level; wells capable of producing a large amount of oil, but lacked sufficient formational gas to lift the column from the depth from which the well produced; because so much more oil could be produced by this method than by the swab or pump.

48. Have you been able to increase the production by gas lift from wells producing from the Hunton or Misener formations over what they were flowing naturally or swabbing?

No (7); yes (1); yes (1) after they had declined to about 1/3 of the initial production.

49. From the viewpoint of economically producing the maximum amount of oil from an average well during its gas lift life and assuming your neighbor would produce his wells at maximum capacity, what size casing would you set on top of the sand and what size pipe would you run for gas lift purposes?

Answer: 6⅝-inch casing—2-inch tubing (1); 6⅝-inch casing—2½-inch tubing (9); 6⅝inch casing—2½-inch tubing for wells up to 5000 barrels (3); 8¼-inch casing—3-inch tubing (2).

50. In what stage of the flowing life of a well should gas lift be installed?

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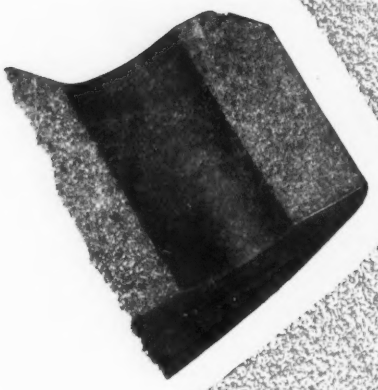

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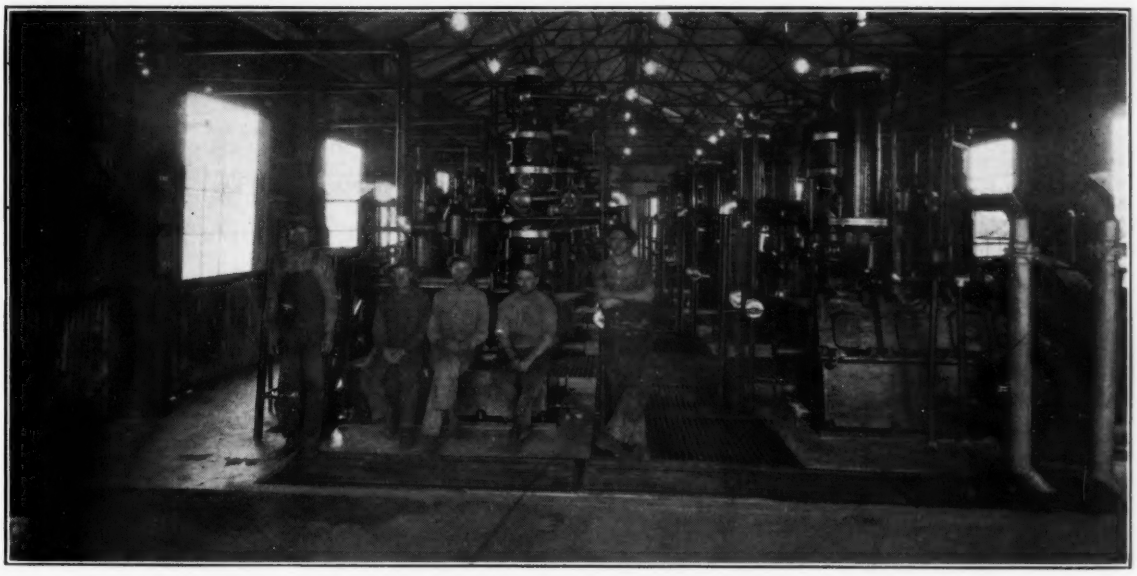

Vertical type engines and compressors installed at Barnsdall Oil Co.'s Carr City gas lift plant in the Seminole district

When well starts to heading (8); when heading of well is sufficient to show a well defined decline in production (2); as early as possible so that check runs can be made to determine when it is economical to put it on lift (1); when well starts to heading if flowing through 6⅝-inch casing when well goes dead when flowing through 5⅜-inch casing (1).

51. Have you ever put a well on gas lift that was flowing natural either steady or by heads and decreased its daily oil production?

No (7); yes (1); 1200 barrel natural to 1000 barrels on lift with 6⅝-inch casing and 2-inch tubing; Wilcox wells in Earlsboro and Seminole on gas lift when they were flowing steady did not change oil production, unless large volumes were used, in which case, production was decreased; well in Earlsboro flowing 2400 barrels by heads through 5⅜-inch casing decreased to 1200 barrels when 2-inch tubing was run for gas lift. Well resumed 2400 barrel production when tubing was pulled.

52. What size pipe would you run in each of the following sizes of casing for gas lift purposes if the well had just ceased flowing naturally?

In 8¼-inch, 4-inch (6); 3-inch (4); 2½-inch (4); 5⅜-inch casing and flow through this pipe (1).

In 6⅝-inch, 2½-inch (14); 2-inch (1).

In 5⅜-inch, 2½-inch (3); 2-inch (10); 2-inch regular (1).

53. How do you determine the proper volume of input gas to use in any well under any particular conditions?

By trial (14). Take hourly gauges, observe steadiness flow to the trap; Wilcox wells—when maximum production is obtained—Lime wells—minimum formation gas-oil ratio; vary input volume below and above minimum and maximum production to ascertain proper rate of flow.

54. Have hourly gauges of oil been advantageous in proper adjustment of input volume?

Yes (10); absolutely necessary (2); very necessary in early life of well; if they are four hours per test.

55. How far off bottom would you put the end of the tubing assuming that the well could be "kicked off?"

Put tubing as shallow as maximum production can be obtained, later lower to top of sand (1); bottom of inside string of pipe (2); within 50 feet of top of sand (3); top producing sand (4); practically on bottom (3); would depend upon well. If we were afraid of water would attempt to hold back pressure with column of fluid (1).

56. Should the bottom joint of tubing be perforated and how?

No (7); with slots (2); perforate from 4 to 8 feet from bottom with area twice pipe section (1); perforate with ½-inch holes or larger with area 1½ times pipe section (1); perforate with ⅛-inch holes with area 1½ times pipe section (1); perforate with any shape openings to allow gas to escape if end of tubing should be plugged if set on bottom, and not for any benefit to flowing operations (1).

57. What has been the average and maximum pressures required to "kick off" wells in each of the pools in the Greater Seminole Area?

Pool	Average Lb. per Sq. In.	Maximum Lb. per Sq. In.
Seminole	600	1200
Earlsboro	500	1000
Bowlegs	500	1000
Little River	750	1200
Searight	400	1000
Mission	500	1250
St. Louis	750	1100

58. Have you found it advantageous to use special breakout machines?

Answer: No (12); yes (3).

59. Have you had any success attempting to "rock a well" to "kick it off?"

Yes (10); no (2); one small well would not break out until rocked (1); yes, when flowing through small tubing (1).

60. Have you ever tried any footpieces or similar devices in gas lift work and did you obtain any favorable results?

Yes, with no results (10); none tried (4).

61. Have you found that it takes a certain volume of gas discharging into the trap to flow a well to maximum capacity, through a given annular space regardless of the amount of oil production? If so, what was the gas volume if the annular space was between: 6⅝ inches and 2½ inches and 5⅜ inches and 2 inches?

No (4); not consistent (3); 6⅝ inches and 2½ inches, 1¼ million (1); 1½ million (1); 2 million (1). 5⅜ inches and 2 inches, 1 million (3).

62. Does the gas-oil ratio for maximum daily oil production depend upon the size of casing and tubing? Why?

Yes (10), necessary to have proper velocity of discharge and ratio would be greater in greater annular area; size of casing and tubing affects it but does not control it (1); yes (1), account of variation of bottom hole pressures; no (1), flow depends upon velocity and effective submergence.

63. Does the natural gas-oil ratio increase or decrease as a well goes from natural flowing to gas lift?

Decreases (6); increases (1); change inverse to change in rate of oil production (1).

64. Does the natural gas-oil ratio

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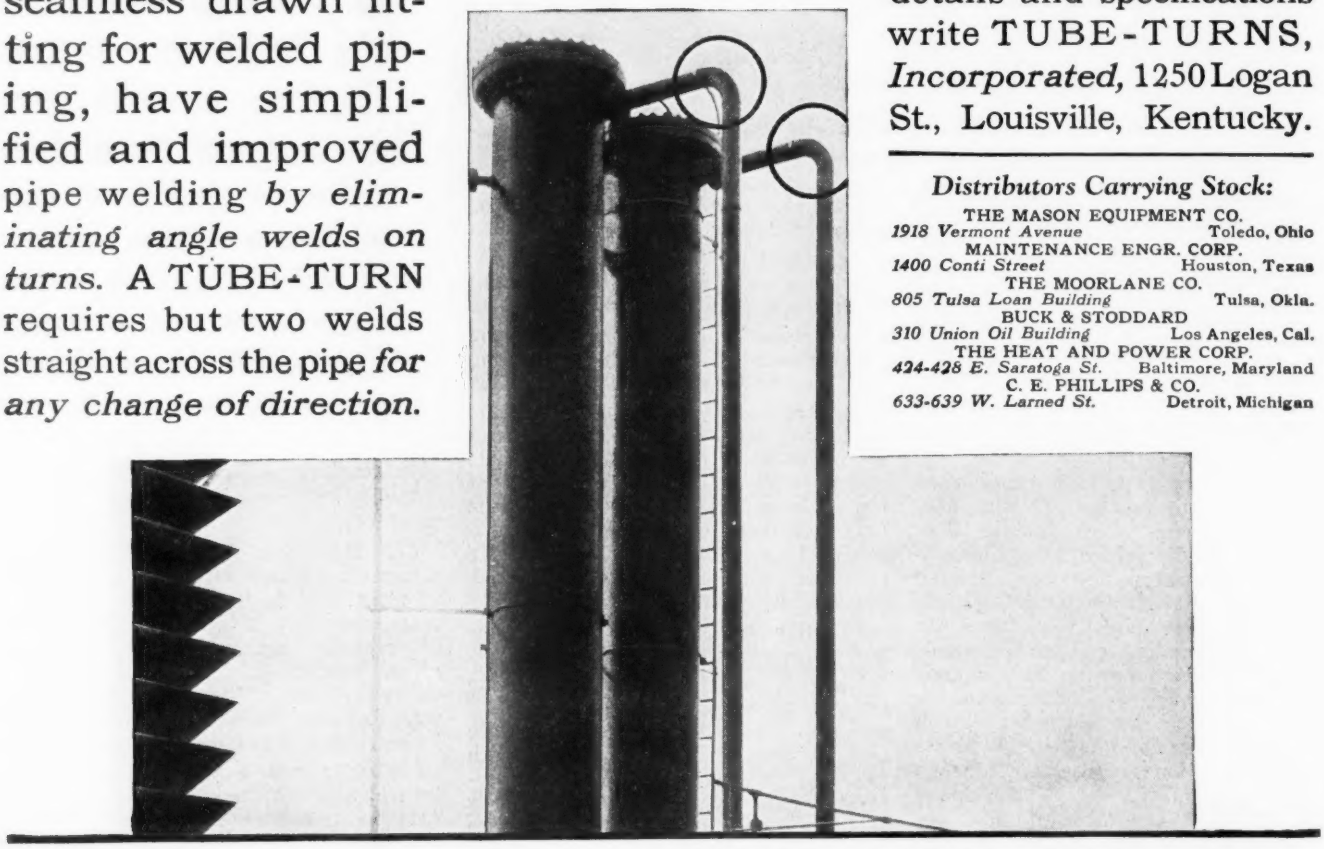

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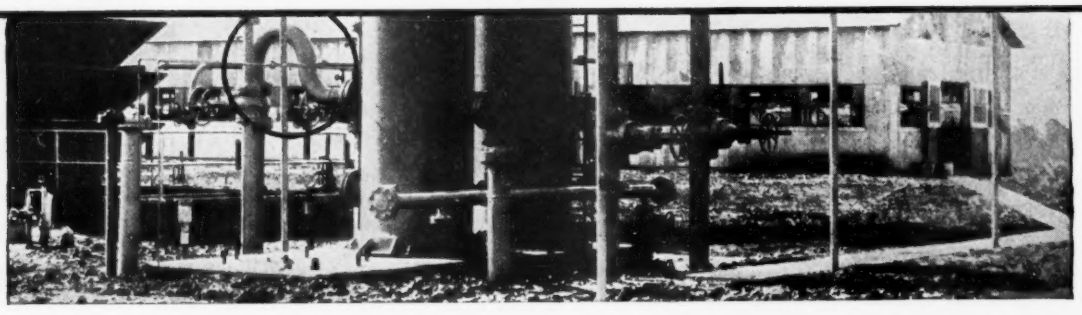

increase or decrease as the life of the well on gas lift increases?

Increases (7); decreases (1); increases until about time water appears then decreases (2).

65. Does the gravity of the oil always decrease during the gas lift life of a well?

Yes (7); usually (1); no (4).

66. Is the rate of decrease in the gravity of the oil dependent upon the gas-oil ratio during the gas lift life of a well?

Yes (9); to some extent (1); unnoticeable amount (1).

67. What is an average drop in gravity after gas lift has been installed on a well that was flowing naturally?

Answer: 0 to 1 degree (1); ½ of 1 degree (1); 1½ degrees (5); 2 degrees (3).

68. What maximum pressure should be carried on the gas trap from the viewpoint of decreasing the maximum daily oil production?

Depends upon total volume of gas. Is of importance on natural flowing well as gas volume is decreasing but not so important on gas lift wells where volume can be controlled. One answer; in general 5 to 10 pounds does not affect oil production on gas lift wells if sufficient gas is circulated.

69. What effect will back pressure on the gas trap have on the gasoline content of the gas?

Decreases gasoline content (9); increases gasoline content (2); no change unless back pressure exceeds 25 pounds (1); depends upon total gas-oil ratio, the larger the total gas-oil ratio the less effect trap pressure will have on the gasoline content of the gas (1).

70. Is loss caused by drop in gravity after gas lift has been installed offset by increased gasoline production?

Yes (6); partly (3); no (1).

71. Under what circumstances will gas lift hasten water encroachment?

Too rapid rate of drainage makes it possible for some of the recoverable oil to be trapped in the sand by water encroachment (7); gas lift will not increase water encroachment (1); helps hold water back (1).

72. Have you been able to control water encroachment? If so, how was the back pressure obtained?

No (6); not after it exceeds about 25 per cent (1); some indications back pressure has hastened water encroachment (1); yes (2), by applying back pressure at the surface; yes (2), by column of fluid; yes (2), by decreasing the volume of gas circulated.

73. What is the average total gas-oil ratio when flowing maximum daily oil production by gas lift through the annnular area?

Answer: 700, 850, 1000, 1800, 2000 (2), 2500, 3000 (3), 3500. Average 2035.

74. What do you consider to be the maximum volume of gas you can economically inject into a well to steadily flow by gas lift a barrel of oil through the annular space between the tubing and casing?

Answer: 3000, 5000 (2), 7000, 10,000 (3) cubic feet of gas per barrel of oil.

75. To what oil production per day would a well that was flowing steady by gas lift through the annular space between the tubing and casing have to decline before you would change your method of operation? To what method would you change? Why?

Change to pump at 100 barrels (2); change to pump at 200-250 barrels for reason that production can be increased on the beam (2); change to intermittent flow at 200 barrels because of a decreased gas-oil input ratio and we would also experience a slight increase in production due to relieving the pressure on the sand for the off-time interval (3); change to intermittent flow at 500 barrels (2); at 300-500 barrels (1); change to swab when well makes more than 300 barrels but rock pressure is too low to continue on gas lift (1).

Intermittent Flow

76. What are the principles of intermittent flow?

Principles of intermittent flow are to admit and cut off input gas to the wells at short intervals of time. During the non-flowing period, the back pressure on the sand decreases materially which allows the oil to enter the well at an increased rate and the hole acts as a reservoir. After a short interval of time, determined by trial, a heavy "shot" of gas is injected into the well and the accumulated oil in the hole is lifted to the surface with less slippage of gas than if the well were flowing steadily. The sudden "kick-off" forces most of the oil up the flow pipe and allows a minimum amount to be driven back into the formation.

77. What number of wells is most advantageously operated from the same header?

Answer: 2; 3 to 5; 2 to 12; 5; at least 6; 8; we believe any number of wells can be operated from the same header provided the header is of sufficient size to furnish the necessary volume (1).

78. Does the well flow through the annular space or through the tubing?

Through annular space (8); either —usually through annular space (2).

79. On what type of well does intermittent flow work best?

Small welds (2); on wells where the rock pressure has decreased but has porous sand and high saturation (8); wells with little formational gas and low pressure (1); on any well which can be flowed (1).

80. What is the minimum, average and maximum oil production you have produced with intermittent flow?

Barrels Per Day

Minimum	Average	Maximum
2½		225
10	400	1400
10	300	900
30	200	700
45	300	1000
75	200	650
80	200	600
120		900
130	350	1200
150	500	2000
—	—	——
Av. 65	306	958

81. Can you produce as much oil by intermittent flow through the annular space as you can by flowing the well steadily provided you have sufficient gas available in either case?

No (1); will be approximately the same (1); yes (4); yes on small production (1); yes, usually more (3); substantial increase when wells have declined on steady flow to approximately 200-300 barrels (1); limited data indicates more production by intermitting wells up to 750 barrels per day.

82. To what extent will intermittent flow decrease the amount of gas required to flow a well steadily?

Answer: 20 per cent (3); 25 per cent; 25 per cent to 35 per cent; 1/3 (2); 25 per cent to 50 per cent (2); 40 per cent; 45 per cent; Average 31 per cent.

83. What are the disadvantages of intermittent flow?

None (1); requires compressors to discharge into headers at higher pressure than for steady flowing, variable intake pressure on compressors, cost and trouble encountered with devices for switching the gas on and off, down time due to cold weather, increases the natural gas-oil ratio.

84. Does the gravity of the oil increase when a well is changed from steady to intermittent flow?

Yes (3); slightly (2); noticed no change (2).

85. Should intermittent flow be installed on a well that is making water?

No (1); yes (5); yes (1), decreases emulsion over steady flow; yes (1), if well is making small percentage of water; yes (1), but will cause higher working pressures.

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Gas Lift Through Tubing

86. To what oil production per day would a well have to decline before you would run the following size of tubing as a flow pipe?

Answers

Size Tubing	Daily Oil Production Barrels										Average
2 -inch	100	—	100	—	100	—	100	—	—		100
2½-inch	200	—	150	—	250	—	150	—	200		190
3 -inch	300	—	350	—	400	—	350	—	500		380
4 -inch	400	—	800	—	1000	—	800	—	1000		800

87. Can you flow as much oil through a proper string of tubing as you can through the annular space between tubing and casing provided a sufficient quantity of gas is available for lifting purposes in either case?

No (5); yes (4); yes (2), on small wells, depends on bottom hole pressures; when well has declined to where it can be flowed through tubing we put it to pumping (2).

88. Have you had any favorable results by the use of tapered tubing? Discuss advantages and disadvantages and give illustrations if possible as to number of feet of each size of pipe, changes in oil production, gas required, etc.

No (8); yes (2), practically same production with 25 per cent to 50 per cent reduction of gas input requirements; yes (1), useful when equipment is limited and immediate maximum production is not a consideration.

Gas Lift vs. Swabbing and Pumping

89. What is the average and maximum percentage of increase in oil production of gas lift over swabbing?

None (1); 20 per cent to 50 per cent; 0 to 300 per cent; 0 to 400 per cent; average 100 per cent maximum 400 per cent; average 500 per cent maximum 800 per cent; amount of oil swabbed depends upon fluid level and volume of gas produced with the oil. Rather difficult to swab much oil from a depth of 4000 feet if the gas-oil ratio is low (1).

90. Have you found any wells where it was possible to swab more oil than you could gas lift? What is the reason?

No (1); yes (12), after pressure on the sand has declined. Swabbing reduces pressure on the sand to a greater extent than that which existed when well was on gas lift. The result is a greater differential pressure between the well and the sand. We (1) are able to produce more oil from the Misener sand by swabbing than we can by gas lift; this is attributed chiefly to the looseness of the Misener sand.

91. Does the production on a gas lift well decrease if an offset well is taken off gas lift and put to swabbing? To pumping?

Yes (3); some do and some do not (2); has an effect, the degree depending upon the age of the wells, the porosity of the sand, the amount of rock pressure remaining in the sand and the crookedness of the holes (1); depends on spacing and porosity (1); doubtful (2).

92. When do you take a well off gas lift and put it to swabbing? To pumping?

Swabbing used only to clean out wells and not as a permanent operation (8); tested on swab at 400 barrels (1). Put to pumping at 50-100 barrels (1); 75-80 barrels (1); 100 barrels (2); 200 barrels (2); 250 barrels (1). Put to pumping when we need compressors (2).

93. Will gas lift bring a well onto water as quickly as swabbing? Under what conditions?

No (6); on edge wells gas lift brings wells onto water by removing oil rapidly, allowing water level to rise (1); circulating excessive volumes of gas through large annular area during the flush stages of a well will place a lower back pressure against the sand than would the swab. If this pressure differential does not increase the oil production, the result will be that water encroachment will be hastened (1); if the oil is recovered at the same rate the water will appear at the same time with each method (1).

94. Does the natural gas-oil ratio increase or decrease when a well is taken off gas lift and put to swabbing and vice versa?

Increases (8).

95. Does the natural gas-oil ratio increase or decrease when a well is taken off gas lift and put to pumping?

Increases (3); decreases (2); usually decreases until well can be pumped down, then increases (2).

96. Does the natural gas-oil ratio increase or decrease when a well is pumped instead of swabbed?

Decreases (7).

97. Does the gravity of the oil increase when a well is taken off gas lift and put to swabbing or pumping?

Yes (14).

98. What is the average and maximum lifting cost on your properties to produce a barrel of oil by gas lift, by pumping?

Gas lift—cents per barrel—Average, 5-10; 7; 7; 8; 8-12; 10; 10-15; 19; average 10.1.

Gas lift—cents per barrel—Maximum, 50 (3); 70; 80; average 60.

On pump—cents per barrel—Average, 18; 19; 25; 25-35; 25-60; average 27.4.

99. What is an average cost per day to swab a well?

Answer: $50.00; $65.00; $70.00; $75.00 (2); $80.00; $75.00-$100.00; $100.00 (5); average $84.00.

100. Leaving out all phases of economics, do you believe that gas lift has increased the ultimate yield of oil from the sands compared to what the ultimate yield would have been if the wells had of been swabbed and later pumped? Give reasons.

No (1); swabbing and pumping would have produced a greater ultimate quantity because the water encroachment would have been slower and cleaned the formation of more oil (1).

Yes (1); yes (3), because wells on gas lift have almost invariably been produced with lower formational gas-oil ratios; resulted in high daily production early in the life of the wells when rock pressure was high (1); because gas lift conserves the rock pressure in the producing horizon (1); there is a definite back pressure with gas lift (1); believe the back pressure universally held has retarded water encroachment and increased ultimate yield (1); decline curves have been flattened and production sustained (1); production on gas lift is more rapid and a greater use is made of both the formational gas and the gas in solutions, while on the other hand swabbing and pumping do not do this (1).

(The End)

Phillips to Construct Houston Plant

HOUSTON, June 22.—Purchase of a 50-acre site, fronting 950 feet on the south side of the Houston ship channel, has been made by Phillips Petroleum Co., of Bartlesville, on which to construct a natural gasoline refractionating plant.

Announcement of the deal was made by W. G. Burchfield & Brother, of Houston, who handled the transaction for the Seaport Land Co., sellers of the plant site. M. T. Kirk and W. T. Lerch, special representatives of the Phillips company, closed the transaction.

F. E. Rice, general superintendent of the Phillips gasoline department, is expected in Houston immediately to oversee construction work.

HOUSTON, June 21.—The Hughes Tool Co., manufacturer of oil industry tools, is building an addition, 400 by 140 feet to its machine shop here. This will add 56,000 square feet to the floor space. Core bits and parts will be made in the new shop.

With the completion of this new building, all of the 20 acres originally purchased by the company will be in use. An additional 45-acre tract adjoining the plant will be used for railroad tracks and storage which will require an outlay of some $100,000.

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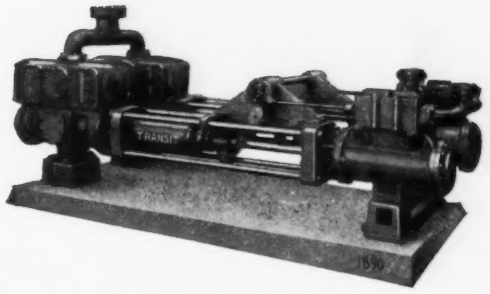

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KEEP PURE DRINKING WATER ALWAYS HANDY

With everyone in the oil industry talking curtailment of production and conservation of resources, it is a self-delusion to degrade good gas oil into more than fifty percent of fuel oil to be added to the already large surplus

But that is what some refiners are doing in order to obtain less than fifty percent of gasoline from the gas oil

The Dubbs non-residuum

method of operation will produce the maximum in gasoline from either gas oil or fuel oil and no fuel oil will be left to be added to the surplus

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
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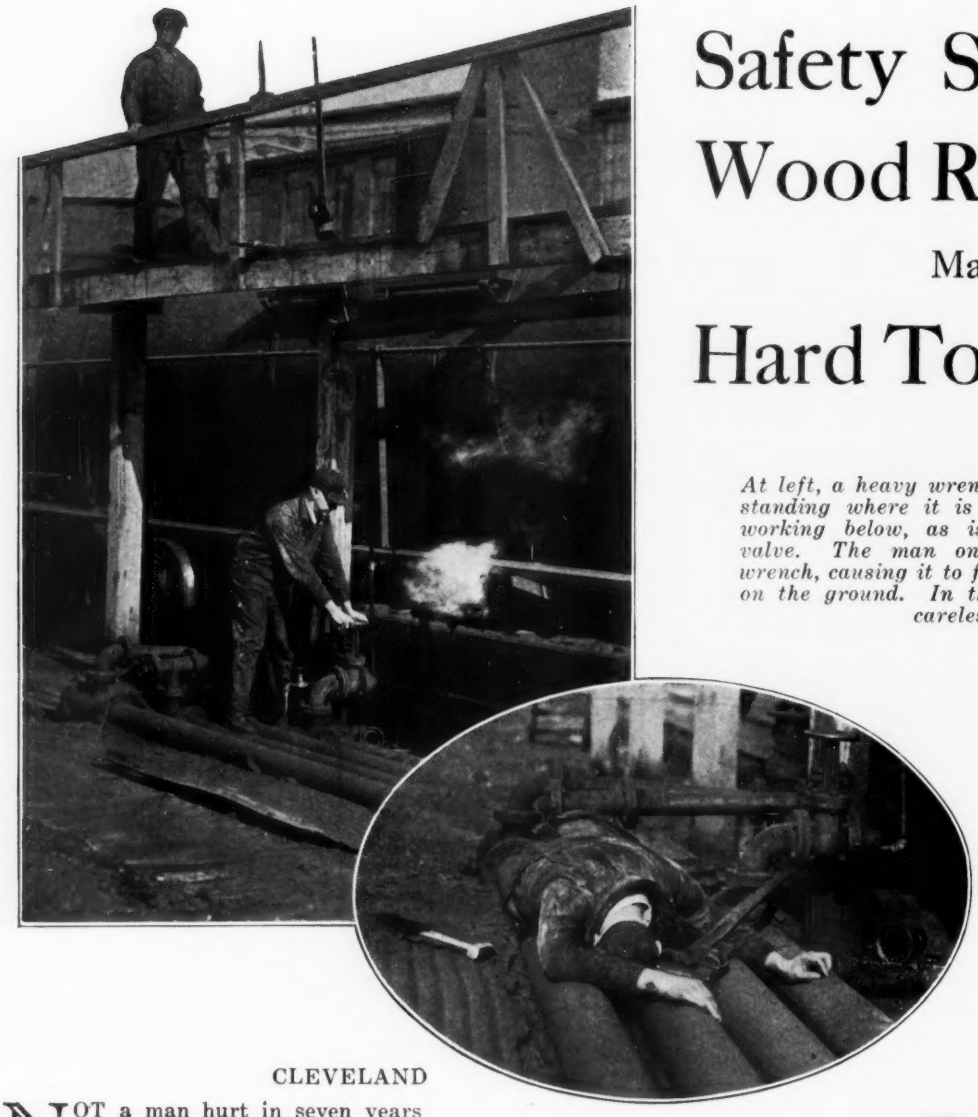
Safety System At Wood River Plant Makes It Hard To Get Hurt



At left, a heavy wrench has carelessly been left standing where it is likely to fall on someone working below, as is the man operating the valve. The man on the walkway kicks the wrench, causing it to fall on the head of the man on the ground. In the oval, the result of this careless accident

CLEVELAND

NOT a man hurt in seven years by stepping on a nail.

Not one hurt in seven years through failure of a ladder.

Not a man injured in four years by gassing.

Only six men hurt in four years by accidents due to stumbling.

This record was made at the Wood River refinery of the Standard Oil Co. of Indiana and was reported to the National Safety Council conference held in Kansas City April 30-May 1, by L. D. Palmer, safety engineer at the refinery. The plant normally employs more than 1000 men.

Mr. Palmer attributes this freedom from accidents to education of the workmen themselves in carefulness and to good foremanship, backed by the plant management from the general manager down.

In sizing up causes of accidents and their prevention, Mr. Palmer says:

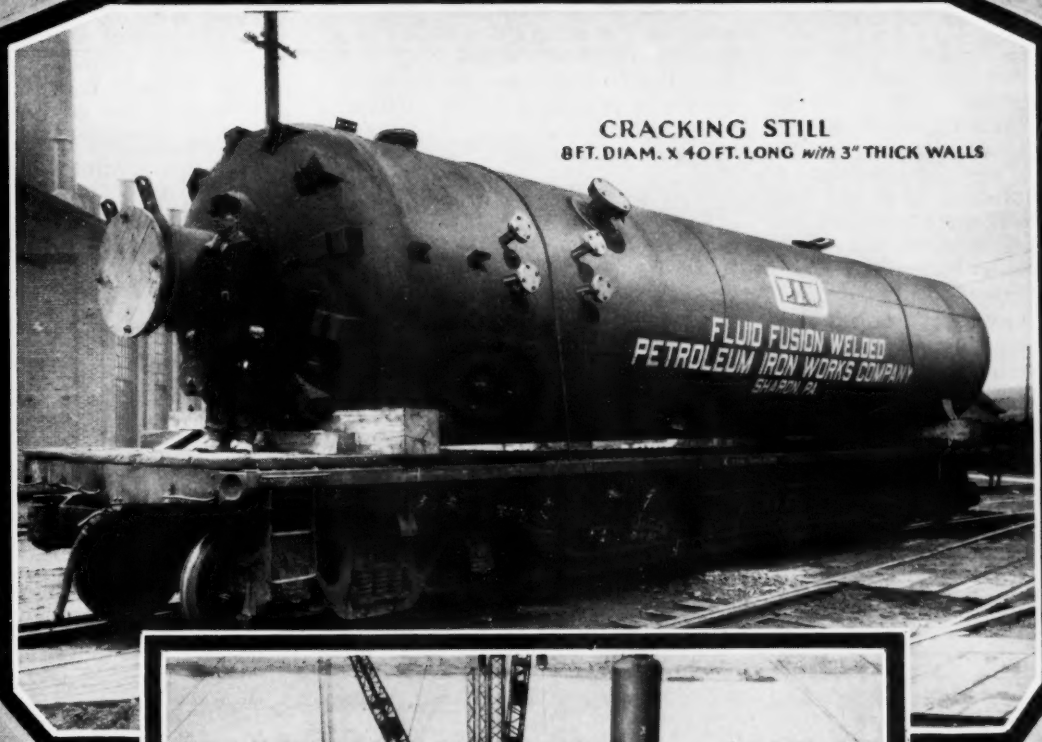
"The majority of refinery accidents are not directly related to process operations. I would say that over 80 per cent are due to other causes common to all industries. Men fall, they stumble, they are struck by falling material and drop material on their feet. They receive strains, get material in their eyes and splinters in their hands. They sustain injuries common in handling machine and hand tools. Only a small per cent are caused by fires, scalding, chemical burns, gassing, explosions and other causes directly related to our process operations.

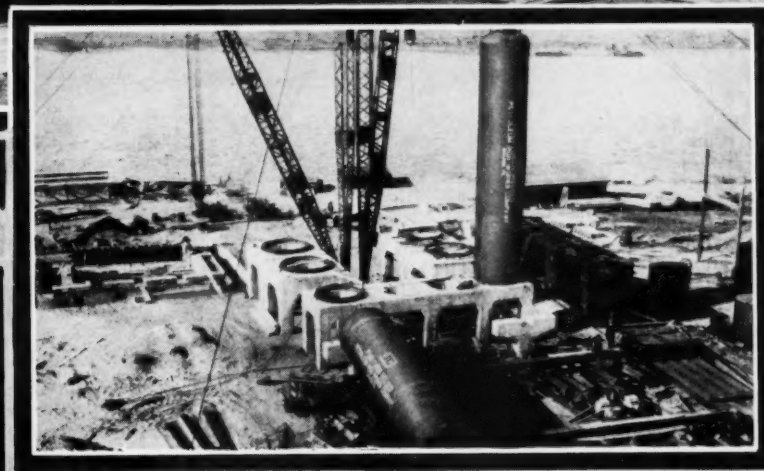
"A very important factor in the control of refinery accidents, however, is the improved engineering. When I think of the old refinery as compared to the modern refinery I am proud of our engineering forces, and I am convinced that here is a factor which has been indispensable in accident control. In thinking of the engineering forces I have in mind that group of men who are responsible for the engineering and process methods, the designers and builders of our equipment. This group includes both process men and mechanical men.

"The settings for our equipment are better designed and have greater factors of safety. Problems in corrosion resistance and strength of the different metals have been given much attention in present day construction. One very good example of the effects of the better engineering is the manner in which the too frequent tar line fires and failures have been so greatly reduced. Today we have expansion fittings and bends, flanged couplings, welded and braced in places needed, and sometimes riveted, also cast steel is used where at one time we may have used cast iron.

"Threaded lines are carefully made up with double strength lines and fittings. Failures in still heads, seams, bottoms, tubes, vapor lines and towers have been controlled by the same precautions in their design and construction. Tanks which store light oils are made vapor proof with full steel construction which has eliminated most of our tank fires. Equipment is so built that the valves and other controlling devices can be operated from safe walks which are well lighted and remote controls are installed for certain important valves. This is an important item and has eliminated certain types of refinery accidents.

"Measuring devices are installed to accurately gauge the contents of stills, the flow of oil, the pressures and temperatures in the system, which gives the operator the necessary information to insure safe operation. These devices are important in our refinery safety and the lack or failure of them has contributed to many refinery accidents. Finally after the equipment is constructed with the thought of safe operation, a system of inspection is provided, that it will not be necessary to wait for leaking





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THE PETROLEUM IRON WORKS COMPANY
SHARON, PA.

lines and stills to inform us the equipment is about to go West.

The following are factors in the methods employed to control accidents in the Wood River refinery, says Mr. Palmer:

"1. The plant management has made known the desire for safe practices and safe working conditions and has proven by its interest in the health and safe working conditions of the men that it meant what had been said. Safeguards were provided and working conditions improved whenever the health and safety of the men indicated that this should be done.

"2. Safety articles, reports and cartoons printed in the company magazine covering different safety topics and showing the relative standing of the refineries have instructed, and created an interest in accident control.

"3. Monthly reports are prepared showing the relative standing of the foremen and departments. These reports create interest and call attention to causes of accidents. The reports are sent to all foremen.

"4. Another factor which is not a plant activity is an annual series of foremen's safety instruction courses conducted by our local safety council in which our foremen, with possibly 1000 foremen from other industries, get outside views on safety and are caused to realize the general importance of the work.

"5. A large number of very excellent bulletins from the National Safety Council are posted in all parts of the refinery.

"6. We have departmental safety committees, which change personnel each six months, and a head safety committee to handle suggestions. The departmental committees are balanced with foremen and other employees, the foremen members of the committees being appointed by the management and the other members are appointed by elected representatives on our joint general committee. Minutes of the meetings are posted in the departments.

"7. We have what is called a service department which works under the direction of the safety department. This department includes a small number of men who do clean-up work, including janitor work, road repair, filling in ditches and holes and work of that nature.

"8. Plant and department rules cover general and special hazards such as the use of goggles, smoking, plant traffic, use of certain equipment, use of ladders, scaffold construction, crane signals, reporting injuries, safe working practices and other necessary regulations.

"9. About six years ago a start was made in the first aid training with the help of the Bureau of Mines. Today we have over 90 per cent of the employes trained in first aid. We believe this has helped educate the men in the value of first aid, and has perhaps aided our accident prevention work in other respects. First aid rules state that men must come to the first aid station for all injuries, however slight, and I believe the fact we have not had a lost time injury account of infection during the past five years indicates that the rules are obeyed and careful attention is given to first aid. Reports are made on all cases. This gives us excellent material to study in locating the causes of injuries. The foreman also makes a report in all cases and in that case must determine the cause of the accident.

When sampling or gaging a tank or car the workman should stand on the windward side of the tank so the wind will carry the fumes away from him. Pure air is better to breathe than gasoline fumes, particularly when it may contain some sulfurous gas

"10. Periodic inspections of all process equipment, locomotives, cranes and other equipment, ranging from daily to monthly inspections, is made on all equipment, the failure of which might cause an accident.

"11. Efficient supervision of work.

"It is my thought that if your accident rate is high you should first look to your supervisors, and somewhere in that group, at the bottom or at the top you will likely discover the greater part of the problem. If boards are allowed to lie around with nails in them you have foremen who are not interested in that matter to any great extent. If your men will not wear goggles your foremen are not greatly interested in eye protection.

"Bulletins will not stop the use of unsafe tools, they will not stop ladder accidents or eliminate infections. Safety committees and their posted minutes will not stop unsafe practices or provide all necessary safeguards. All these things are useful but the foreman must never feel that any part of his responsibility is removed by these helps.

"Accident control in a refinery depends on good foremanship. There is no other way. There is no substitute for the foreman, but he must be given generous assistance in his work or he will reach the point where the strain will break him and then the best engineering and process plans will go wrong.

"Careless men are causing most of our accidents. A careless man in a refinery is truly a liability. He can pull the cover off the wrong still or close the wrong valve and cause a disaster. If he is careless in watching bottoms, tubes, gauges or lines an accident results. A welder, burning in a tank which has not been properly steamed, or burning over an unprotected sewer opening, will cause a refinery rukus, and the most important factor in the control of such accidents is good foremanship.

"Let us not belittle our foremen with a system of safety in which they are just one of the factors, but make them the big factor. Help the foreman with bulletins, meetings, reports, flag flying or whatever else may appeal to our changing fancy, but after we have placed the bulletins on the boards, and after we have had our safety rally meetings and given our awards, let us say to the foreman: 'This is your job—see that men work safely, and if you need any help from any one of us, from the manager of the refinery down to the boy in the safety office, you can depend on our full support.'

"Much is being said about foremen these days. Somehow we are getting to be 'Foreman Conscious,' and while I realize we may depend too much on foremanship, I am certain that, foremen, backed by their management, furnish the backbone for accident control in refineries."

CLEVELAND, June 21.—The program for the National Metal Congress to be held simultaneously with the National Metal Exposition in Cleveland the week of Sept. 9 is being whipped into shape.

Representing the iron and steel division of the American Society of Mechanical Engineers will be Arthur G. McKee, president of Arthur G. McKee & Co., engineers and contractors of Cleveland.

H. Foster Bain, secretary of the American Institute of Mining and Metallurgical Institute, will be one of the representatives of the iron and steel division of that institute.

Visiting Around the Refineries

By Paul Truesdell

National Petroleum News

MORE light is shed on the subject of gum in gasoline by V. Voorhees and John O. Eisinger of the research laboratories of the Standard Oil Co. of Indiana, in a paper prepared by them for presentation before the annual meeting of the Society of Automotive Engineers and published in the June issue of the S.A.E. Journal.

The authors state:

"It was found that only the actually dissolved or preformed gum in a gasoline at the time of use directly affects engine operation. The gum usually collects on the hot parts of the intake system, particularly the inlet valve.

"It is shown that gum is chiefly a result of oxidation which is apparently of the autocatalytic type; and furthermore that, once a gasoline has started to form gum, it usually continues as long as air or oxygen is present."

Concerning methods of testing, the paper states:

"Since no existing gum tests were found that were satisfactory—two gum tests were devised, one being an oxidation test designed to show the stability of a gasoline toward gum formation, particularly when stored, and the other a modified steam-evaporation test to show actual gum in solution at the time the test is made."

* * *

REFINERY welders and perhaps even welding foremen who have had in the back of their heads the notion that welding with acetylene torch or electric arc causes permanent injury to the eyes by reason of ultra violet or infra red rays, can set their minds at rest, according to W. F. Stoody of the Stoody Co., manufacturers of welding rod, alloy steels and welding equipment, of Whittier, Cal.

Mr. Stoody, writing in Fusion Facts, a magazine put out by the company says:

"There are no injurious rays given off by the oxyacetylene flame. Goggles should be worn, however, for two reasons. First, because the oxyacetylene flame and the molten metal cause a very intense and bright light and therefore cause a strain on the eye and the entire nervous system. Second, goggles should be worn to prevent sparks and small particles of molten metal entering the eyes.

"The electric arc does give off injurious rays and a welder must have eye protection but just remember that this old sun of ours has been giving off the same injurious rays along with a lot of others that we know nothing of for millions of years. If you don't think the sun rays will hurt your eyes, just try looking at the sun for a few minutes and you will get a bad case of sore eyes.

"Just as the sun's rays are beneficial to mankind, so also are the rays from the electric arc, providing you don't get an overdose, especially in the eyes."

* * *

IT TAKES 55,000 barrels of crude every day to keep the three refineries of the Sun Oil Co., Philadelphia, running to capacity, it is stated in the latest issue of Our Sun, the company magazine.

The largest of the company's plants is at Marcus Hook, near Philadelphia. The others are at Toledo, O., and Yale, Okla. It is stated that with the exception of about four weeks, all the refining facilities of the company have been operating at capacity for 23 years.

The company has production in Oklahoma, Texas, Kansas, Louisiana, Kentucky, Ohio, Michigan, New Mexico, California and Arkansas. It owns 10 ocean going tankers and has 2500 tank cars in service.

* * *

WE SHOULD like to see the refiner telling the world what good products are instead of the outsider setting the specifications.

It is time for the refiners and lubricant manufacturers who are making automobile chassis lubricants suitable for use in present day cars to step out, tell the world what good chassis lubricants are and sell their products on that basis. If there are any companies whose greases or semi-liquid lubricants do not altogether measure up to the requirements of the present, they should revise their line so that they too can sell their greases on the basis of quality.

This would take the play away from certain companies who buy their grease from established manufacturers in the oil business and then sell it to the public through advertising campaigns warning the motorist against every grease except their own.

Undoubtedly there is room for improvement in some of the chassis greases being offered to the motorist. However, there are many companies manufacturing excellent lubricants for the purpose.

When a man of the standing of C. W. Spicer, a manufacturer for years of automobile parts, especially universal joints, states that he has found no lubricant that is really satisfactory for lubrication of that part, he deserves a respectful hearing and deserves to have something done about his complaint.

He told the S.A.E. that progress in the manufacture of lubricating oils and greases has lagged far behind the development of the cars that use them but that this is largely due to the fact that the automotive engineers have not informed the oil industry as to what they want.

In fact, many of the automotive engineers have not yet made up their minds what they do want.

I believe there is now a joint committee of automotive engineers and oil technologists working toward some sort of method of standardizing and classifying greases and semi-solid lubricants. Some such method as the S.A.E. viscosity numbers for lubricating oils is proposed.

We suggest that Mr. Spicer be added to this committee and that the work of standardizing chassis lubricants be speeded up as much as possible so that no oil company will be putting out any lubricant for any use on an automobile that does not have the approval of the men who design and build the automobiles.

Extra 'Soaker' on Tube and Tank Battery Makes 2000-Hour Runs the Rule

By Paul Truesdell
N. P. N. STAFF WRITER

CLEVELAND

USE of three reaction chambers or soaking drums for two cracking coils makes possible continuous runs of 2000 hours, nearly three months, of the Tube and Tank cracking plant at the Cleveland refinery of the Standard Oil Co. of Ohio.

As a usual thing, a reaction chamber must be cleaned of coke at intervals of from 4 to 7 or 8 days, according to the process, the charging stock and the operating conditions. When it is cleaning out, the whole unit is shut down and earning no money while the overhead goes on, unless there is an extra reaction chamber.

It is to get away from these frequent shutdowns that the Standard officials installed three soaking drums instead of two. Even though each soaker costs more than $23,000, they figure that they made an exceedingly good investment by putting in the third one. So well are they satisfied that they are following the same policy with two more cracking units now building.

Each of the cracking coils is connected with one soaking drum and the third drum is to carry the load while one of the others is cleaning out. The running schedule is so arranged, of course, that two soakers are always in shape to run while the third one is always cleaning out.

BECAUSE readers of the article published in April 3 issue of NATIONAL PETROLEUM NEWS on the operation of the standard of Ohio cracking plant have asked for details as to how the vapor streams are swung over from one soaking drum to the other to permit one to be cleaned while the others are on stream. The accompanying explanation and description was obtained from Standard of Ohio refinery executives.

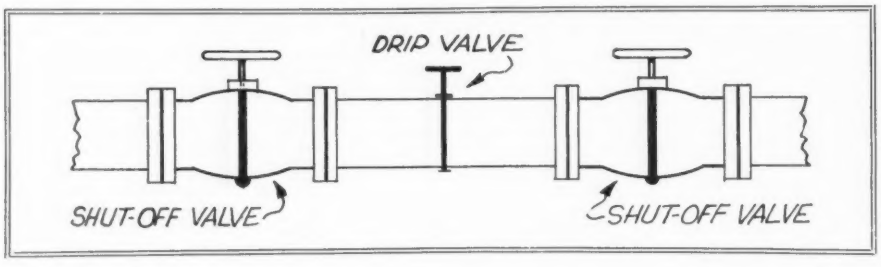
Because of the fact that the coils operate under a pressure of from 1000 to 1100 pounds and the soakers under about 750 pounds, great care has been taken in the design and construction of the piping and valve arrangements for cutting the streams from the cracking coils out of one soaker and into another. Men have to enter the idle soaker to chip out the coke while the others are running.

The accompanying drawing, Figure 1, shows how the problem has been worked out. The bottom parts of the three soakers are shown, together with their connections to the header that conveys the hot oil and vapor from the two cracking coils. The soakers are numbered 1, 2 and 3. The cracking coils, between which the three soakers stand, are numbered 1A and 2A.

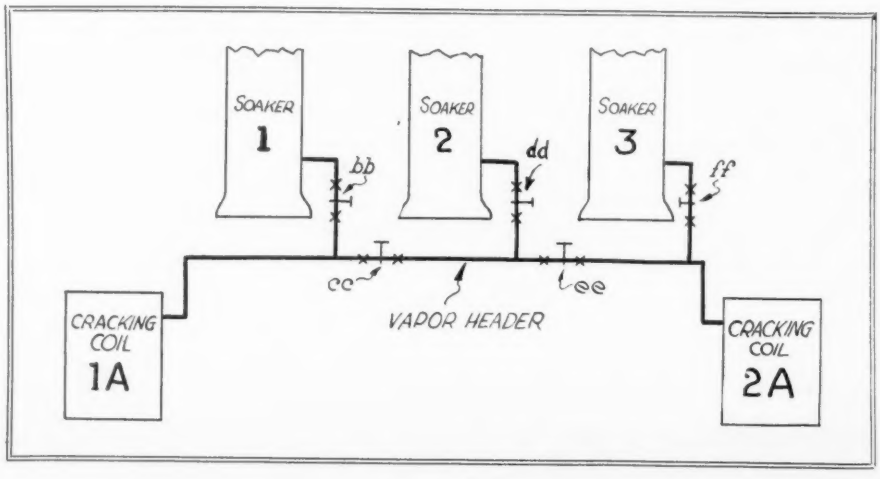
The main vapor header is fitted with a pair of valves cc between soakers 1 and 2 and another pair, ee, between soakers 2 and 3. Each of the three lines leading from the vapor header into the soakers is also fitted with a pair of valves bb on the line into No. 1 soaker; dd on the line into No. 2 and ff on the line into No. 3.

Between the two valves of each pair is a heavy cast steel spool piece about 3 feet long which is bolted into the line. A drip is drilled in the middle of each of these spool pieces, the drip outlet being controlled by a valve.

When one of the soakers is to be disconnected for cleaning, the pair of valves on the vapor header leading into that unit is closed and the drip valve between them is opened. If the valve nearest the cracking coil is leaking, the oil will show up at the drip outlet. If no leak appears, the valves leading into the soaker



Above: Figure 2—Detail of double shut-off valves on vapor lines, Standard of Ohio refinery



Right: Figure 1—Cracking coils and three soakers, showing the piping and valve arrangement, Standard of Ohio refinery

into which it is desired to run, are opened.

When the idle soaker has cooled down sufficiently, the flanges nearest it in the inlet line are unbolted and a blank of steel is bolted in place between them. Then the bottom plate of the soaker is removed and the cleaning starts. The method of cleaning out these soaking drums at this plant was described in NATIONAL PETROLEUM NEWS, April 3 issue (page 73).

Of course, the valves used are heavy forged steel gates suitable to withstand the pressures at which the units operate.

As an example of the operating method, based on the drawing Figure 1:

Cracking coil 1A is running into soaker 1 and it is desired to cut out the soaker for cleaning and divert the stream into soaker 2. While running into soaker 1, valves cc in the vapor header are closed. The first step in making the change is to close valves bb and open the drip valve between them. If there is no leak apparent, valves ee are closed, the drip valve between valves cc is closed and valves cc are opened. The drip valve between valves dd is closed and valves dd are opened.

It is pointed out that one of the advantages of this manifolding system is the ease with which the streams can be swung over from one soaker into another. If the time to change comes on the night shift, it is not necessary to have a gang of pipefitters on the job to change over. The men on duty at the cracking stills simply turn the proper valves, swing the stream and leave the cut-out soaker to cool.

Figure 2 shows the double valve arrangement.

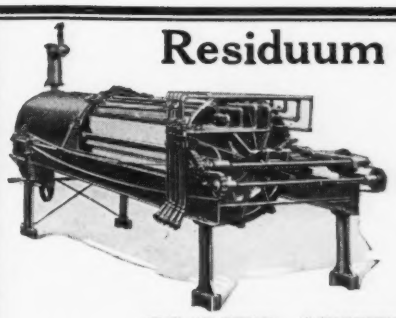
Each soaker has to be cleaned out about every sixth day.

Sues Sinclair on Naval Lease

WASHINGTON, June 21.—H. Leslie Parker, Casper, Wyo., has entered suit against Harry F. Sinclair, claiming an eighth interest in Naval Reserve No. 3 for the development of which Fall made a lease to the Mammoth Oil Co.

Parker claims that Sinclair misrepresented to Fall that all adverse claims in the Naval Reserve had been quited when as a matter of fact Parker claims his interest was ignored. He also claims that Fall kept him in ignorance as to the status of his claims for a patent therefore he asks the court to require Sinclair to make an accounting of the stock issued by the Mammoth to the extent of one eighth for him.

NEW YORK, June 21.—In 10 years motorists have paid more than $1,000,000,000 in gasoline taxes, or approximately $1000 per mile of surfaced highway, according to the American Petroleum Institute.



Residuum Suitable to Meet the Benzol Test

Certain of the refineries, cracking their crude, are filtering the still residuum in Oliver United filters.

The resulting product meets the Benzol test for fuel oil. The product has a good market value.

Write for more details of the new method for treating cracking still residuum. It may mean added revenue for your plant.

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Transcontinental refinery wax plant

Skimming, Cracking, Lube Making From Ranger Paraffin Crude

By Paul Truesdell
N. P. N. STAFF WRITER

Article 3

FORT WORTH

COLD settling is the method used at the Fort Worth refinery of the Transcontinental Oil Co. for dewaxing bright stock. So well satisfied is the company with results obtained by this method that it is now building more cold settling tanks. Dr. Born, assistant general superintendent of refineries of the company, states that exhaustive tests were made to determine the relative merits of the cold settling and the centrifugal methods of dewaxing and the decision was taken in favor of the former.

This is perhaps the largest lubricating oil refinery in the country where the cold settling process is used, although it is still largely employed by refiners running Pennsylvania grade crude. However, a great many of the small Pennsylvania plants use the centrifugal process for dewaxing their oil.

The Fort Worth plant runs on Ranger paraffin base crude exclusively and has a capacity of about 5000 barrels a day. It is running about 4000 barrels at present. In the first article of this series the refinery was described in a general way and in the second, the method of handling crude distillation was described.

In the previous article it was shown that the crude, having been preheated to about 315 F. with waste heat picked up from heat exchangers on the vapor lines leading from the stills to the receiving house, enters a pipe still from which it is discharged into a flash tank.

The vapors pass overhead from the flash tank and pursue the course that turns them out finished gasoline and kerosene, naphtha and fuel oil. The bottoms, that part of the crude that does not evaporate in its pass through the pipe still and its introduction to the flash tower, we left in the bottom of the tower in the preceding article.

We now pick it up and follow it through the various stages that turns it out at last in the form of finished products.

Stills 4, 5, 6, 7, 8 and 9 are the lubricating oil reducing stills. They are interconnected and the flow of oil from still to still is by gravity. Bottoms from the flash tower go first into Still 4. Overhead streams of gas oil are taken off Stills 4 and 5 and these furnish charging stock for the pressure stills.

From Still 6 a stream of wax distillate is taken that can be chilled and pressed without cracking. Raw wax distillate streams are taken off Stills 7, 8 and 9. This distillate requires cracking before it can be pressed. Steam refined cylinder stock is continuously withdrawn from the last still in the lube battery No. 9, passing through a heat interchanger as before mentioned, countercurrent to the incoming crude which cools it considerably.

The wax distillate is chilled and pressed in the conventional manner and filtered to color in percolating filters.

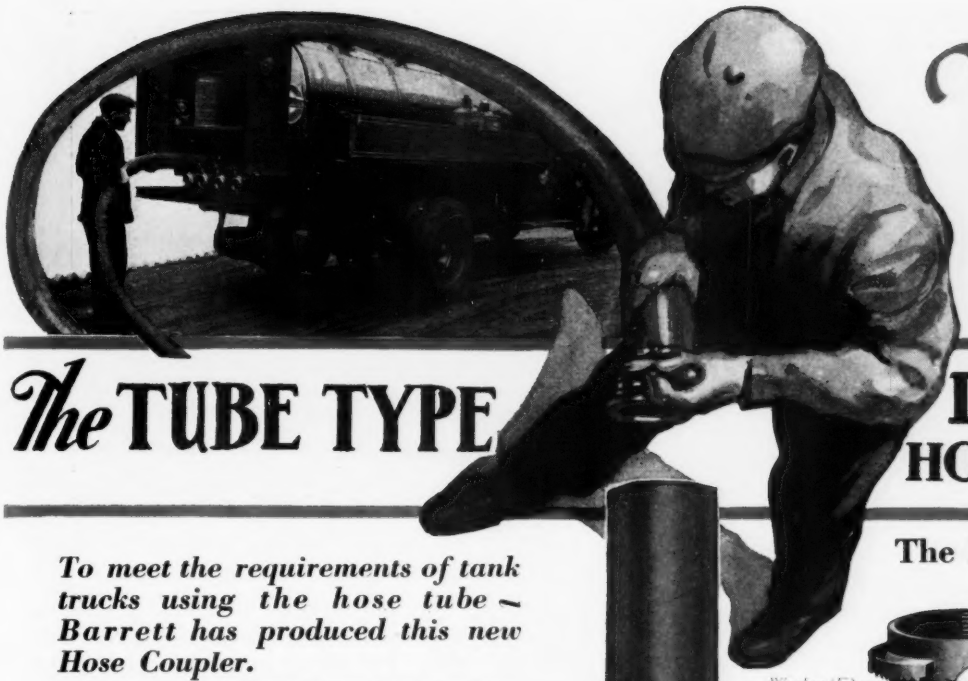
The refinery has Vogt equipment designed to produce 150 tons of refrigeration and five 48-inch, 350-plate wax presses, a sweating house with two sets of six sweating pans each and two wax chipping machines, all housed in building of concrete, brick and steel construction.

The wax, after being filtered, goes to the chipping machines where it is packed in slack barrels or cotton-lined burlap bags. A large part of the wax goes to the export trade.

The filtering equipment consists of 24 filters each 6 by 24 feet and a No. 12 Sweetland filter press to remove fine clay from the oil when it is used, as it is in some of the company's filtering operations.

The percolating filters are housed in two rows along either side of a substantial brick building which is shown herewith. A belt conveyor runs lengthwise through the middle of the house in such a position that when the filters are being discharged, spouts can be placed under the outlet ports and the spent clay delivered onto the conveyor.

The conveyor dumps the clay into a pit from which it is picked up by a bucket elevator and carried to an elevated bin. Thence it is fed downward through the clay roasting furnaces. Two Brockway burners with a joint capacity of 1500 pounds an hour are used for reclaiming the clay.



New!

The TUBE TYPE LEVERLOCK HOSE COUPLER

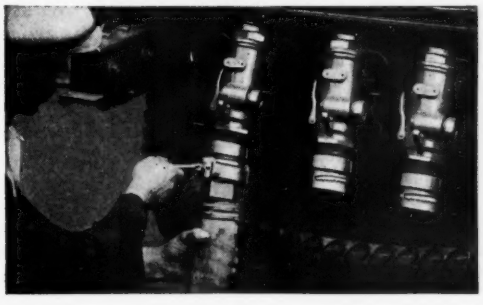
To meet the requirements of tank trucks using the hose tube — Barrett has produced this new Hose Coupler.

Here is the famous Lever Locking principle so designed that it easily slides into the tube. Moreover, the same quick, easy, safe Barrett coupling action is retained that is such a desirable characteristic of all Barrett Lever Locked Hose Couplers!

Cast in Red Brass, every part of this new Barrett Coupler fits with definite precision, ***always!*** A simple twist when attaching locks a leak-proof coupling. A reverse twist, just as simple, instantly disengages the hose.

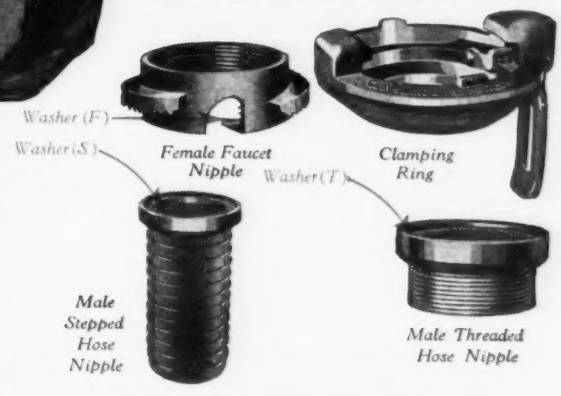
Think of the time saved over the usual wrench couplings.

Illustration below shows coupling about to be made.



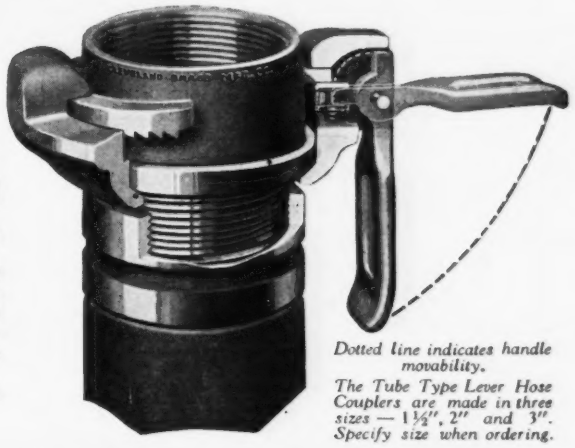
The tube above represents the hose tube on truck tank.

The Disassembled Parts



How It Operates

The handle of the Clamping Ring is raised to depress the ratchet spring that engages the faucet nipple teeth. Lowering the lever handle automatically locks the coupler in place. When inserted in the truck tube, this lever handle folds back permitting easy insertion or withdrawal of the hose.



Dotted line indicates handle movability.

The Tube Type Lever Hose Couplers are made in three sizes — 1½", 2" and 3". Specify size when ordering.

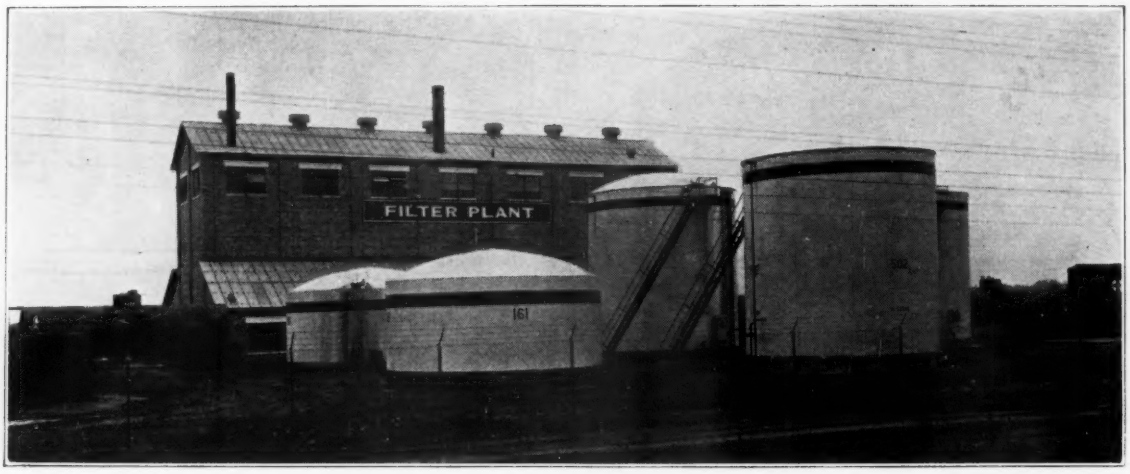
Change Over to BARRETT Lever Locked Hose Couplers — *And Save Time, Money and Material*

Barrett Hose Couplers, both tube and regular type being strong, sturdy and easily withstanding blows and knocks, are extensively used. They are standard equipment with many oil companies. Any tank truck operator who has once used the Barrett Type Hose Couplers is all for them. What better endorsement than a record of successful usefulness?

For further information, ask our representatives or write us direct.

THE CLEVELAND BRASS MANUFACTURING COMPANY, 4640 HAMILTON AVENUE, CLEVELAND, OHIO

BARRETT



Transcontinental refinery filter plant. Note from this picture and that of the wax plant the type of buildings at the refinery

A new clay-roasting furnace designed by Transcontinental engineers is nearing completion. It is a square brick tower about 60 feet high. It is to be fired through a long rotary furnace similar to the Brockway fullers earth dryer, with auxiliary firing by burners introduced through ports in the wall of the tower near the bottom. The spent clay is to be fed into the tower at the top and gravitate downward counter current to the rising products of combustion. The tower is so designed and baffled, however, that the flames and the clay will not come into direct contact at any point.

To make bright stock, the cylinder stock is treated with acid and neutralized. Then it is diluted about 50-50 with naphtha, thoroughly mixed by circulation, pumped into the settling tanks and slowly chilled down to approximately zero. Wax free oil is drawn off, filtered to color and the naphtha recovered in a rerun still.

The petrolatum is burned under the boilers and stills, the market not justifying the finishing of it into a commercial product at this plant.

A cheap and practical means of disposing of heavy acid sludge has been worked out at this refinery. The agitators in which the cylinder stock is treated with acid are located in front of still batteries. The sludge is drawn off the bottom of the agitators after the treating operation is completed, into concrete bins. It is very hard and lumpy.

From the bins the sludge passes to an ingenious device modeled on the common kitchen meat grinder, only magnified many times. The device consists of a 40-foot length of 10-inch pipe in which revolves a motor-driven feed screw like an auger. The screw breaks up the lumps and sludge and stirs it up while forcing it through the pipe. Two or three flues are set in the upper side of the pipe to carry away the fumes and discharge them into the air high above the heads of the workmen. Fuel oil is introduced into the sludge during the course of its travel and the action of the screw tends to mix the oil and sludge thoroughly.

At the end of the pipe, the mixture is picked up by a motor-driven pump and conveyed to a storage tank. From the storage tank it is fed through a loop line to the various still and boiler furnaces throughout the plant. Dr. Born says it is not necessary to keep the mixture hot or to keep it agitated—that there is no settling out of solids as the mixture stands in storage.

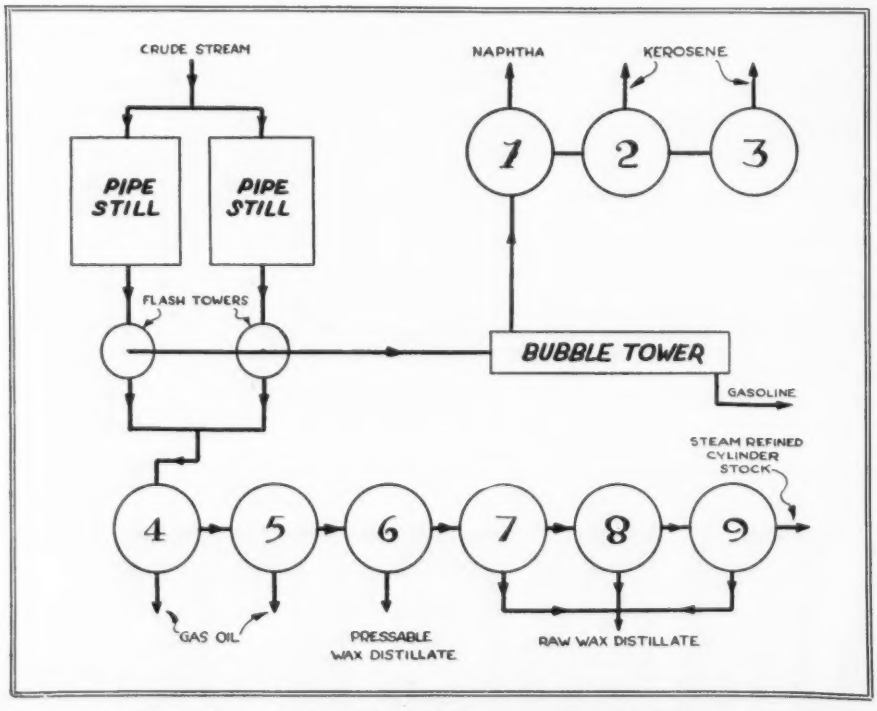
The reason for this he believes, is that just the right amount of fuel oil is mixed with the sludge. Too much oil tends to cause a sharp separation between liquids and solids, he says, while just the right amount of oil makes a sort of emulsion with the sludge which is very stable.

Three types of proprietary burners have been tried out for burning this material, Dr. Born says. These are the Skookum, the Inferno and the Victory. All of them were satisfactory but he has come to the conclusion that a special burner is not necessary. In fact, some burners made in the plant are burning it satisfactorily.

So far no corrosion has been detected from the burning of the sludge oil mixture, probably, Dr. Born believes, because there is no moisture in the fuel to generate sulfurous acid.

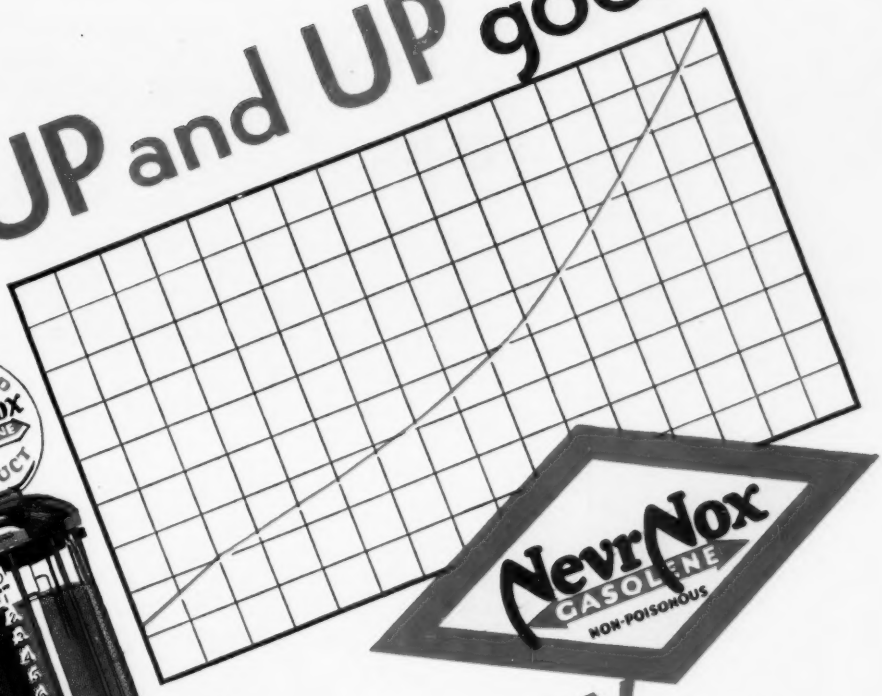
The Transcontinental refinery not having an acid reclaiming plant, the light oil sludge is shipped in tank cars to nearby refineries that are equipped to recover the acid.

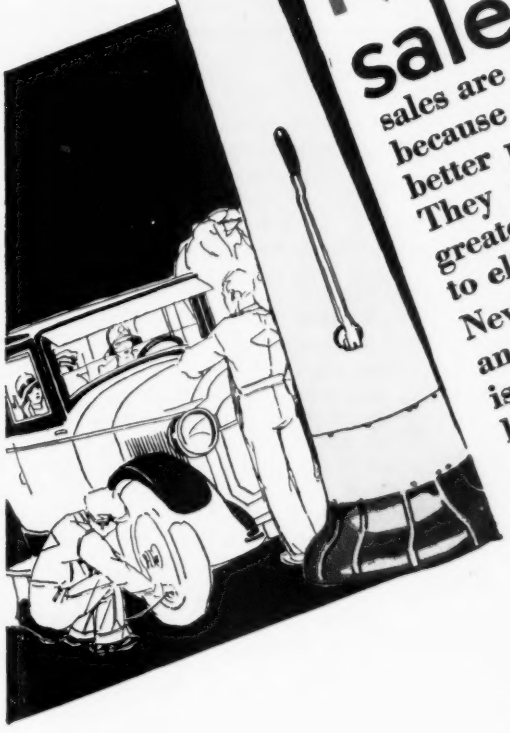
(THE END)

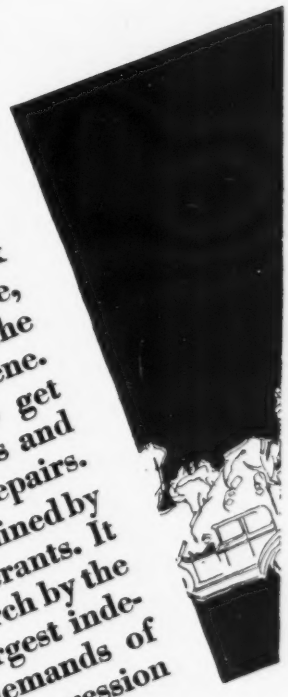


Flow sheet of crude through Transcontinental refinery

UP and UP goes the NEVRNOX sales curve!







NevrNox sales are increasing at an unprecedented rate, because motorists are quick to recognize the better performance of this modern gasolene. They gladly pay the few cents more to get greater power, smoother running motors and to eliminate the "knocks" that hasten repairs. NevrNox is a pure petroleum product, refined by an exclusive process—free from adulterants. It is the result of years of scientific research by the laboratories of one of the world's largest independent refineries. It meets the demands of the modern high speed, high compression motor to a superlative degree.

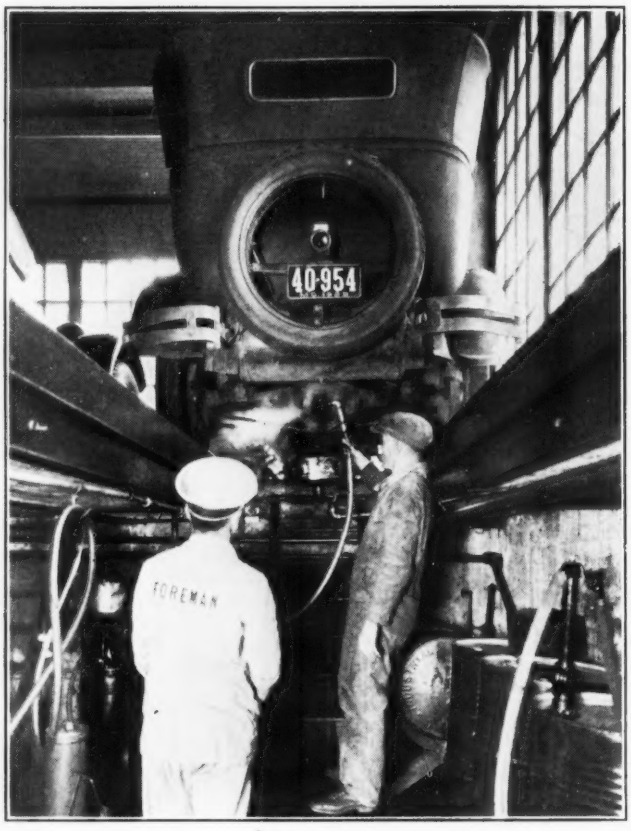
MID-CONTINENT PETROLEUM CORPORATION
General Offices: Cosden Building, Tulsa, Okla.
Chicago Kansas City St. Louis Tulsa Waterloo

Investigate today! You can benefit from the ever increasing popularity of this money making gasolene! Address our nearest office for particulars of the franchise and information concerning the many sales and advertising aids furnished distributors and dealers.

Can You Get $1 For A Gear Flushing Job?

It Is Done In St. Louis

By Ward K. Halbert
N. P. N. STAFF WRITER



Underground where the real work is done in L. C. Wilderman's lubrication station on Kingshighway at Lotus avenue in St. Louis. Gear boxes are cleaned with steam and dried

CHICAGO

ONE night last summer the writer of this narrative was in St. Louis, sitting in the lobby of the Mayfair hotel with nothing on his mind but the "sticky" feeling in the air and the hour of a departing train, when an advertisement in the paper attracted his attention.

It was a quarter-page "ad" telling about a peculiar greasing service conducted at Kingshighway and Lotus avenue in an establishment called "The Oil Well."

"One oil station buying quarter-page space in St. Louis papers! Gosh, that's news!" We nearly said it aloud.

The strap-watch said 9:35 and the clock over the telegraph counter said approximately the same thing. We jumped for the cab stand and started for "The Oil Well" with a great grinding of gears such as taxi drivers provide free when hearing an address on the other side of town.

We were there by 10 o'clock. The "Oil Well" was all lit up. That is to say, the owner of the place had an electrically lighted trade mark in front of his station nearly as big as the building. It was a miniature reproduction of a steel derrick that looked almost like a drilling rig—not an exact reproduction but faithful enough to stimulate the imagination of any customer.

"This man is doing a good work," we told the taxi driver. "He is trying to make the motorists of St. Louis understand that oil comes from wells."

"Two dollars and fifteen cents," replied the driver.

The young salesman encountered at the front door of the station was more friendly. He was glad to talk about business. It seemed to interest him and he was glad to find somebody else who was interested.

"Is the owner of the station here?"

"No, sir, he is not."

"Will he be back tonight?"

"We do not expect him but he does come by sometimes."

"What is his name?"

"Wilderman; C. L. Wilderman."

"Well, my friend, I'm leaving town tonight and I would go to almost any length to meet Mr. Wilderman, if it is possible at all."

"I would be glad to help you sir, but Mr. Wilderman is leaving town too and I'm afraid it will be impossible."

"By any chance is he going toward Chicago? Maybe I could arrange to meet him on the train."

"No, sir, he is driving through to New York."

"On business or pleasure?"

At this question the young man's face registered "That is none of your business." But he replied courteously:

"He is driving to New York to meet his wife, returning from Europe."

"My goodness, how many filling stations does this man operate?"

"Only this one, sir."

* * *

With permission of the young man we loitered about the station for a few minutes. He kept his eye on us, however. Persons not driving automobiles were obviously under suspicion. But in spite of that we asked a few questions and made some observations. Business was rushing, even at that hour of the night, and it was not hard to see what the attendants did for the customers.

The brilliantly lighted derrick out in front of the station was interesting, a good eye-catcher, but it was not enough to make customers drive in. It was more a thing to identify the station to a motorist who might be hunting it already, attracted by the newspaper advertising.

The station building itself was pretty and the grounds neat, but St. Louis is just as full of good looking oil stations as any other city of the first class in the United States. Looks may help it get trade but it is not what brings such a rush of business to a station at 10 o'clock at night.

The back room of the station, used for a warehouse, had some high-class lubricants in it. "Trade marked oils bring business, but just such trade marks have been exhibited over wayside hot-dog stands, and they did not tempt anybody to stop." (This to ourself.)

The station had elaborate facilities for doing lubrication work. There were two 3-car pits on both sides of the office where the desk and tele-

(*Continued on Page* 88)

IS A SUPERIOR PIECE OF MACHINERY

Just for a moment forget about the Globe Merchandising Plan that helps every Hoist-owner make more profits. Disregard the Safety Insurance on every Globe Auto Hoist. Forget the many other advantages that only Globe customers get. Let's consider the Globe Auto Hoist itself—as merely a piece of machinery.

Every bit of material that goes into this Hoist is the finest that money can buy. The principles of construction, so carefully followed in the building of every GLOBE HOIST, have proven themselves superior after years and years of actual use. In addition to high-grade materials and faultless principles of construction, GLOBE AUTO HOIST is so planned and designed that it gives many exclusive advantages.

"HI-PREG"

Action of the GLOBE AUTO HOIST is hydraulic, actuated by air pressure on a column of oil. The inner cylinder wall is bored, ground and honed as smoothly as a gun barrel. When the oil enters this cylinder, it forces the lip of the cup leather (attached to the base of the piston) against this polished surface. This forms a perfect seal and raises the piston, keeping all of the oil underneath the base of the piston. Every ounce of pressure does its full share of lifting.

There is no packing gland to require continual attention. This means lower maintenance expense, easy rotating in either direction, smoother operation and less air consumption. There is no tight-bound collar about the sides of the piston—all pressure is from below.

And so it is well to remember that above all, the Globe Auto Hoist is a superior piece of machinery. You need an auto hoist—every filling station and garage does! It's just as essential as any tool. If you want the *best*, be sure you get a GLOBE. Your jobber has it or can get it for you.

Mail the coupon *now*. It will bring you full details of the best buy on the market.

GLOBE MACHINERY & SUPPLY CO.

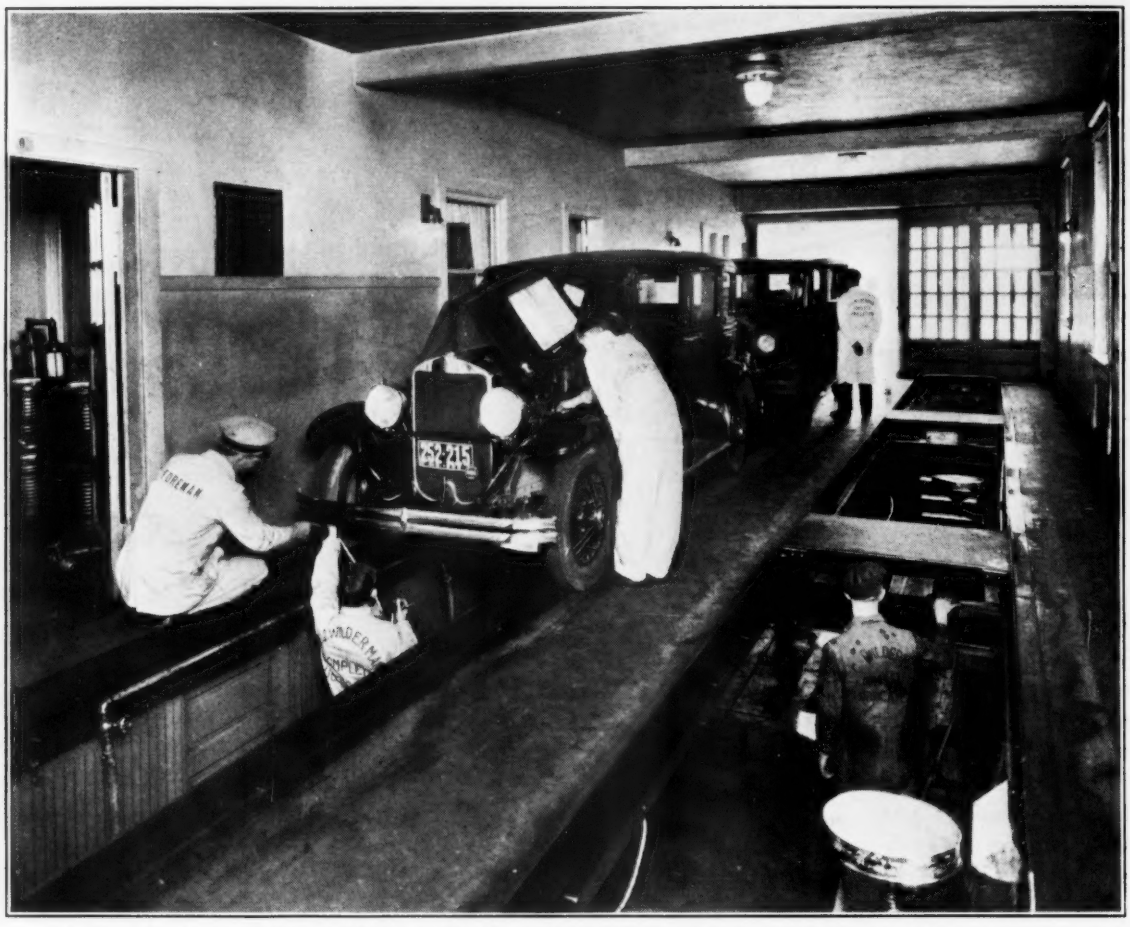
Globe Machinery & Supply Co.
205 W. Court Ave., Des Moines, Iowa

Please send me, without obligation, full details of the Globe Auto Hoist.

Name .....

Address .....

.....



Two 3-car pits in a well-advertised lubrication station in St. Louis where motorists get an unusual job and pay the oil man a price in which there is a profit

phone were. Even at that hour, three cars were getting service.

The two waiting rooms were as elaborate as any ordinary club room. "But," we reasoned, "People do not come to an oil station to lounge in upholstered chairs. They can do that at home. Wonder what brings them here?"

The hiss of escaping steam drew attention under one of the automobiles and there in a white uniform a workman was blowing grease, dirt and other undesirable substances out of the gear box of a car. The customer was squatting so nearby that it invited conversation:

"What do you pay for a job like this?"

"One dollar for the transmission and the same for the differential, plus the price of the gear compound," he replied. "Look out, don't fall in the pit."

* * *

Since then we have carried on a little correspondence with Mr. Wilderman, but never saw him. He insisted that NATIONAL PETROLEUM NEWS publish nothing about his business until he had procured patents on his special equipment. He announced this week that all his claims had been allowed by the patent office May 2, 1929.

In the correspondence Mr. Wilderman advises that the station sold 37,680 pounds of gear compound in the last six months, due to advertising, and repeat business from satisfied customers. The income from gear lubrication alone has averaged $3000 a month for the last two years. In the meantime the station has sold approximately a barrel of motor oil (50-55 gallons) a day. Most of it has been of the company's own brand, "Sunbeam."

In order that he may always have things done his own way, Mr. Wilderman never employs a man from another oil company. He insists on hiring untrained men and "bringing them up to suit himself." He makes these men clean up and put on fresh, white coveralls every day.

The steam used in cleaning gear boxes is generated in the basement of the station. The furnace is heated with an oil burner that consumes crank case drainings accumulated in the station itself.

Mr. Wilderman has been in the business 15 years. He began on the site where "The Oil Well" stands now. His station consisted of a sheet-iron, portable garage with one small gasoline pump inside of it. But from the start he was interested most in a means of cleaning grease and foreign matter from gear boxes.

When finally he installed a grease pit, customers were surprised to find the "boss" working in the pit, under the cars, while his employees did the less distasteful work above ground, such as selling gasoline. The idea was that Mr. Wilderman was studying the problem of cleaning gears.

Eight years ago, after he was 38 years old, Mr. Wilderman left his station in the hands of employees and went to school to study chemistry. He took his work in Washington University.

Today his patented system consists of cleaning the gears perfectly with dry steam, under pressure, and following the steaming process with the application of a drying agent to drive out what water results from steam condensed by contact with the metal.

Ohio Standard Has New Sales Organ

CLEVELAND—May saw the launching of a second house organ by the Standard Oil Co. of Ohio, this one being called Sohio Sales. It will be devoted exclusively to marketing news. The other company publication is The Sohioan.

The new publication supersedes the Service Station Bulletin formerly issued only for service station employes. It will be circulated among the sales force, company dealers and jobbers, according to Charles M. Mills, assistant to the president.

SERVICE STATION ILLUMINATION

CONDULETS GI
AIRPORT AND AIRWAY

TYPE MSA1
FLOODLIGHT

'e floodlight, especially
·e such a short range
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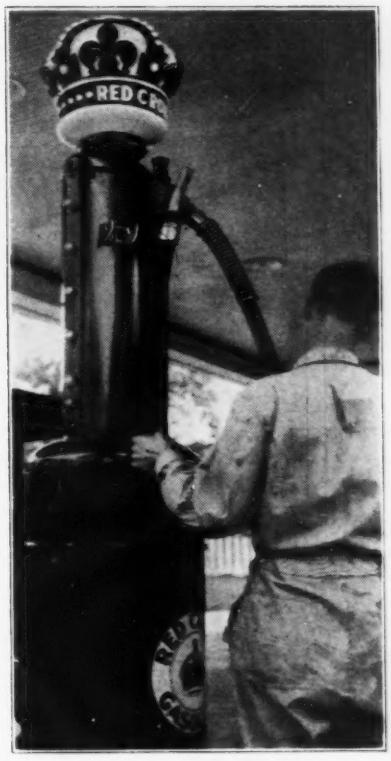
PLUGS AND RECEPTACLES
SWITCHES

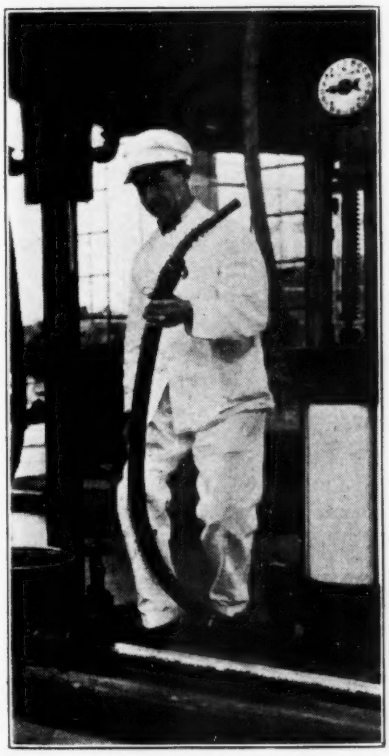
Causes of Accidents at Service Stations

Photographs from National Safety Council

Inattention of service station salesmen has permitted customers to drive away with filling hose in the tank. This invariably results in damage to the hose or pump and sometimes the hose whips around and strikes the service station salesman, injuring him. At least one company requires its service station salesmen to retain the tank cap in the left hand during the filling operation and should the station salesman fail to complete the delivery by taking the hose out of the tank when he steps up to take the customer's cash, the presence of the tank cap in his hand is noticed, which is sufficient warning to the station salesman to take the hose out of the tank and replace the cap

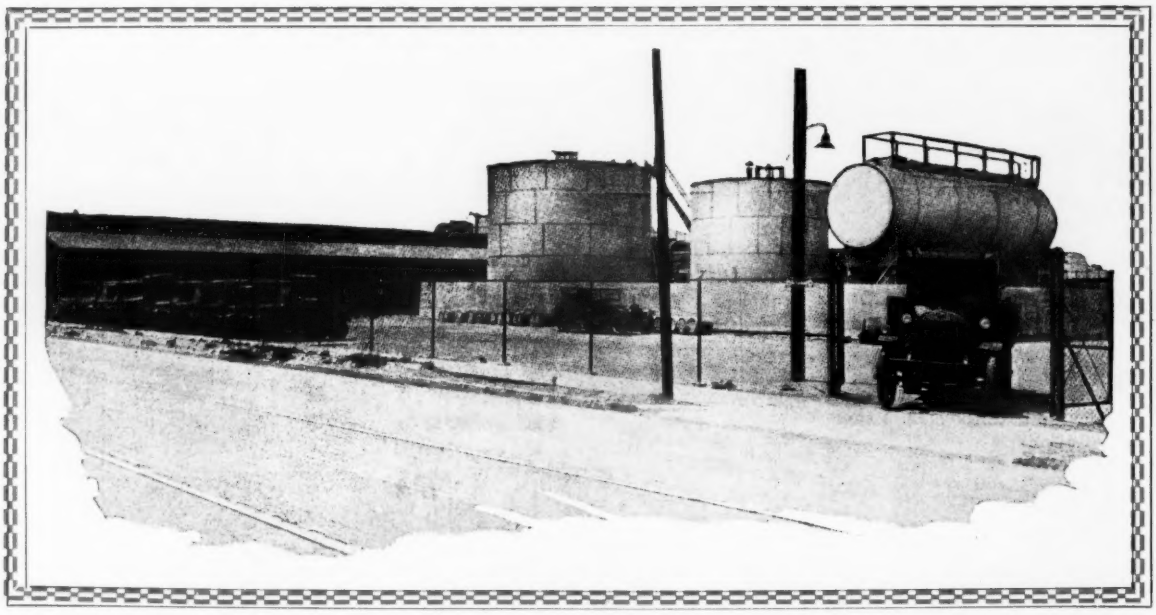


Care should be taken to keep twists out of the filling hose, for a twist in the hose will cause it to jump out of some type of hangers and if it does jump out it may strike a service station salesman or a customer and cause an injury



Left: This type of construction is rapidly becoming obsolete. It is not necessary to place this group of gates and piping on top of the pump block nor to have the hose hangers protruding in such a way that a service station salesman will strike them with his head. In placing men at work where such construction is used, care should be taken to instruct the new man about how he may be injured by this construction and impress upon him the necessity of avoiding such injury

Right: Use a one-gallon measure to fill motorcycle tanks. When the service station hose is used an overflow invariably results and gasoline running down on a hot motor creates vapors that may be easily ignited



A Bulk Station Should Look as Good as the Stations it Serves!

DEGRACO Paints—durable in service, permanent in color—will improve and preserve the appearance of bulk stations at lowest maintenance cost.

DEGRACO PAINTS
All Colors for All Purposes

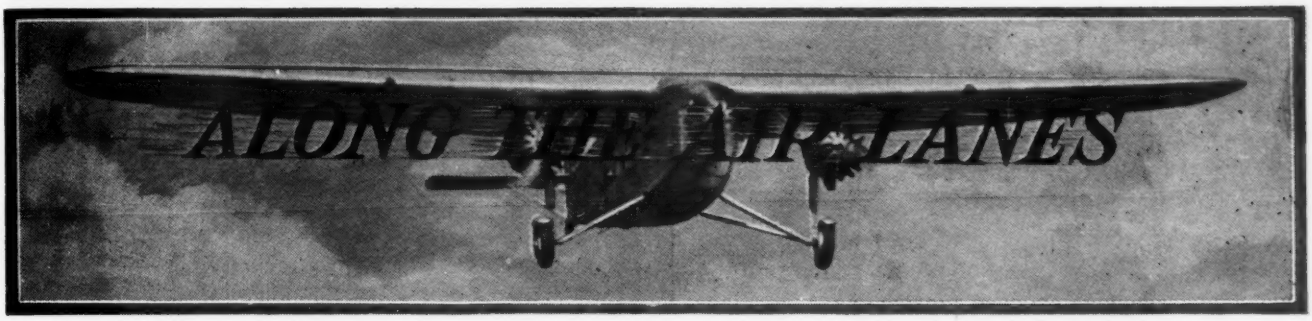
Note: The Detroit Graphite Company maintains a cooperative Engineering Staff to aid in the selection and application of the paint best suited to your needs. Let our nearest representative give you sound recommendations on any paint problems.

Detroit Graphite Company

Branch Offices and Warehouse Stocks in All Principal Centers.

Detroit, U. S. A.

Manufactured in Canada by Dominion Paint Works, Ltd., Walkerville.



About 50 airplanes attended the dedication of the new municipal airport at Enid, Okla. on May 21, when the Champlin Refining Co. had 15 station attendants at its new service station there. These attendants were busy fueling planes and the cars of the large crowd that gathered. Loud speaker hook-ups through the company's radio station KCRC broadcast to the crowds and radio listeners what was happening. A. H. Holland, manager of station sales department for the company, had obtained exclusive rights for the erection of this station at the new airport.

* * *

Miss Marvel Crosson, Union Oil Co. of California flyer, recently established a new altitude record for women when she flew to a height of 24,000 feet. Another lady flyer with the Union company is Miss Consuelo M. Willard, Spanish interpreter for the geological and land departments at Los Angeles. Miss Willard recently completed her hours of solo instruction and awaits the arrival of the Department of Commerce inspector to take her test for a private flying license.

* * *

The Advance Aircraft Co., Troy, O., manufacturer of Waco airplanes, has appointed B. D. Spofford as advertising and sales promotion manager.

Mr. Spofford leaves The Refiners Oil Co., Dayton, O., where he had a similar position, to join the Advance company. He was instructor in flying at Fort Worth during the war.

* * *

In order to enable executives of the company to "overlook" drilling and leasing activity in California quickly, the General Petroleum Corp., Los Angeles, recently purchased a No. 71 Fairchild cabin plane.

Development at Kettleman Hills has necessitated frequent trips to that section of the state by company officials and engineers. Through the use of the plane the round trip, which by other means of transportation requires from 16 to 24 hours, may now be made in from three to five hours.

* * *

H. S. Jones, secretary-treasurer of the Midland Oil Co., Fort Worth, has reason to believe that air travel is safer than ground transportation. Returning to Fort Worth from Dallas the night of May 28, his automobile collided with a telephone pole and Mr. Jones sustained a broken leg.

The previous week he and K. K. Hoffman, pilot of the Midland company's airplane, handled the refueling operations that made it possible for "Reg" Robbins and Jim Kelly, Fort Worth aviators, to break the world endurance record for sustained flight by staying in the air 172 hours and 34 minutes.

* * *

Airport and airway lighting equipment is described in bulletin 2132 of the Crouse-Hinds Co., Syracuse, N. Y. It includes descriptions and illustrations of about every kind of lighting equipment for this purpose, including revolving beacons, floodlights, ceiling projectors, boundary and approach lights, hangar roof floodlights, vapor-proof lighting fixtures for hangars, etc.

* * *

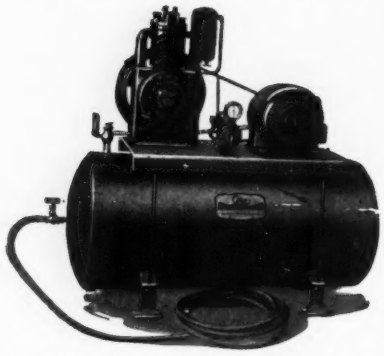
A. O. Smith Corp., Milwaukee, manufacturer of steel products, including those for oil and gas fields, uses a Waco airplane in connection with its sales and field work in the pipe lines and pressure vessel divisions.

Among the first oil companies to use an airplane in its business was the Wadhams Oil Co., Milwaukee, Wis. Here is its Fairchild five-passenger cabin plane, powered with a Wright motor. It has been used extensively in advertising and in the transportation of officials from place to place

MEASURE AIR VALUE

Compare this 2 H. P., 60 gallon tank unit with any ¾ H. P. two-stage unit. Then compare the prices of both units.

The Oro Model T-58



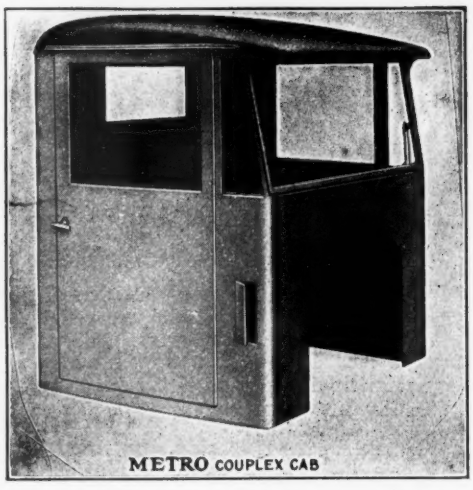
This outfit will do all your tire inflating, paint spraying and will operate one hydraulic hoist or air-operated gasoline pumps.

Costs no more to operate than many a smaller unit.

Wonderful Value at **$215.**

THE AU-TO COMPRESSOR CO.
201 Mulberry St. Wilmington, Ohio

'ORO AIR - - - - ALWAYS THERE'
Export Office: 126 Liberty St. N. Y., U. S. A.



METRO COUPLEX CAB

Leading Oil Companies Are Using the

METRO COUPLEX CAB

They set the style standard in truck cabs. Their distinctive appearance compels admiration wherever they are seen.

There is a model and style available for all standard trucks. The price is right. Send for Metro specification.

METROPOLITAN BODY COMPANY
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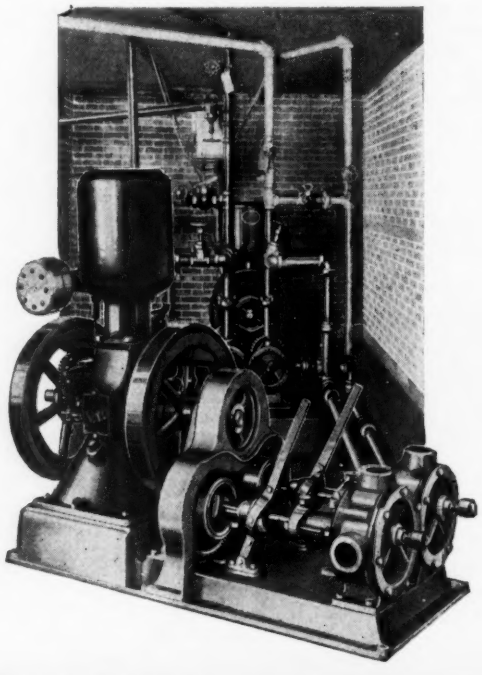


VIKING PUMPS

Letters to The Editor

Dear Editor:

I was much interested in your editorial under the heading, "Broadcasting Again—The AAA We Mean."

The thing that puzzles me in this drive of theirs against the oil companies is this: How can people who are intelligent enough to create an Association and have the following that the AAA has be so dumb? Common sense should explain to them that there would be a variation in price even though there were no price cutting artists doing business in the United States.

I would like to have them answer a few questions:

Why can you purchase a standard make tire, either Goodyear, Firestone, Goodrich, U. S. and others at so many different prices for the same kind of a tire and with the same guarantee?

This can apply on all accessories or merchandise that is to be used on an automobile.

I then would like to have them advise me just why they do not have a flat rate on automobile coverage—why is it necessary to pay additional premiums on a Lincoln over a Ford?

Why is it not possible to have them cover industrial trucks and fleets?

Why was it necessary for them to increase their rates on the coverage of Lincoln automobiles last year?

I know these questions are foolish and ridiculous but not half as foolish as their statements. Perhaps they may have an answer if you think it is worth while to ask for one.

A. D. Dubuisson, President,
Wolverine Service Stations.

* * *

Dear Editor:

Note enclosed clipping. (newspaper comment on 77 different gasoline prices in this country.)

What is the oil industry doing to combat such bunk?

Why not ask this secretary to name specific cases and then insist on his having the explanation printed. For example, the reason the price is so high in Idaho is that it must be hauled 80 miles over mountain roads by burro at a cost in excess of the selling price.

Subscriber

* * *

Dear Editor:

Thank you for your courtesy in sending to us a copy of a letter to you from Mr. A. D. Dubuisson, president of the Wolverine Service Stations of South Haven, Mich., and presenting to us the opportunity of answering, which we accept.

1. We are not making any drive against the oil companies.

2. We thoroughly understand that there will be a variation in prices over the country. We have never said that there should not be variations.

3. The American Automobile Association is not now and never has been in the insurance business so we can not answer his questions relating to that subject.

4. We appreciate that tires are sold at different prices over the country. Likewise when the price of rubber rose to unprecedented proportions some time ago this association was extremely active in investigating the situation and in taking cooperative steps among ourselves and in company with other organizations to reduce the monopolistic price on rubber.

5. It would appear to us that as tremendous users of gasoline the members of this association have a perfect right to study retail gasoline prices. We have certainly had enough complaints from our members questioning the wide difference in prices, even in a restricted territory, to warrant us in doing so.

We are not making any charges that prices are too high, we are appreciative of the necessity for stabilization in one of the greatest industries in the world, but at the same time we reserve to ourselves the right to analyze selling conditions in a field in which our members are continuous and heavy purchasers.

Always, however, we shall hope to be courteous in our presentations and at all times serve the public interest.

Ernest N. Smith,
General Manager.

* * *

Editor, National Petroleum News
Sir:

For some time we have felt that specifications for the S.A.E. viscosity numbers are far too broad, and we are very strongly in favor of a change in some of these numbers to allow refiners and compounders to use these numbers to designate light oil, medium oil, heavy oil, etc. We do not feel that it is necessary for the range to be made so narrow that anyone would have difficulty in maintaining their specifications within the range. However, we do not think it is proper to have the range so great that it would include a heavy oil as well as an extra heavy oil, as is the case with the present specifications.

For our own interest some time ago we calculated the viscosities at 100 and 210 F. corresponding to the S.A.E. viscosity numbers. This we did with both asphaltic and paraffin base oils. The results which we obtained are as follows:

Paraffin Base

S. A. E Vis. No.	Vis. @ 100° F.	Vis. @ 210° F.
10	150- 200	45- 48
20	215- 290	50- 56
30	390- 475	61- 67
40	555	70
50	620-1000	75- 95
60	1200-1600	105-120

Asphalt Base

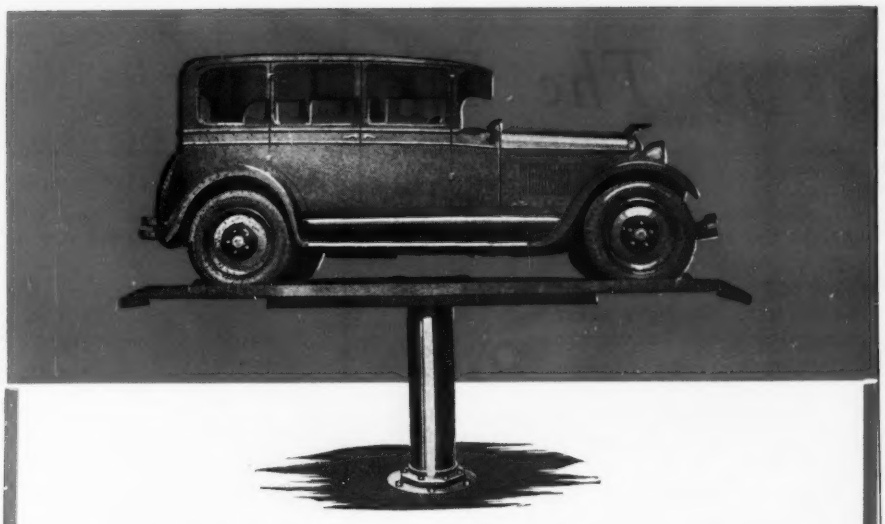
S. A. E Vis. No.	Vis. @ 100° F.	Vis. @ 210° F.
10	172- 248	41¾- 45
20	260- 355	45 3/5-48 3/5
30	475- 575	53- 56
40	700	59 2/5
40	1150	70
50	1300-2500	75- 95
60	Too high to determine	105-120

First, let us say that we are heartily in favor of using the viscosity at 130 F., or some intermediate temperature, in fairness to refiners of all types of oils. S.A.E. Nos. 20 and 30 have a viscosity range at 100 degrees of 75 and 85 seconds, respectively, in the paraffin base oils, and 95 and 100 seconds, respectively, in the asphalt base oils. It seems to us if these ranges were kept to 50 seconds, it would be ample.

When we get to S.A.E. No. 40 there is no range at all, and of course it is absolutely impossible for anyone to guarantee absolute viscosity specifications. There must be some leeway. In the case of asphalt base oil, it is impossible to have an oil which meets S.A.E. specification of 255 viscosity at 130 and 70 at 210 F. If we take the 225 at 130 F. the oil is 700 at 100 F. and about 59 at 210 F. If we take the 70 at 210 F. viscosity the oil is 1150 at 100 F., and 385 at 130 F. In other words, the S.A.E. viscosity numbers are impossible for asphalt oils in their S.A.E. No. 40.

When we come to No. 50 we find in the paraffin base oils a range of 380 seconds at 100 F., which includes practically all paraffin base heavy and extra heavy oils on the market. You know as well as we do that a car that is properly lubricated with a heavy oil should not use extra heavy oil.

In other words, if an oil that has a viscosity of 700 at 100 F. is satisfactory, no one would want to change to an oil that has a viscosity of 1000 at 100 F. Still, both of these oils come within S.A.E. No. 50. That is why we would consider the range too great, as is also the case with S.A.E. viscosity No. 60, which has a range



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in the paraffin base oils of 400 seconds at 100 F.

We have our own opinion as to what should be done, namely, to narrow down the ranges, and we believe that everyone in the oil business would agree to this. However, just what procedure should be followed to accomplish this end, we do not know. We want to go on record as saying that we are heartily in favor of viscosity numbers, or some method of determining just what the different grades of oil are, and in this sense the S.A.E. numbers are certainly excellent, but in our opinion they are only a step in the right direction, and should be narrowed down. Perhaps the Society of Automotive Engineers have this idea in view and they are trying to start gently. At least, we hope so, and anything we can do to promote this, we certainly will do.

Signed,

E. G. Bagley, Secretary,
The White & Bagley Co.,
Worcester, Mass.

Oil Trademarks For Copyright

The following are trademark applications pertinent to our field pending in the United States Patent office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, 900 F St. N. W., Washington, D. C. trade-mark specialists.

As an additional service feature to its readers, this journal gladly offers to them an advance search free of charge on any mark they may contemplate adopting or registering. You may communicate with the Editor of this Department, or send your inquiry direct to the National Trade-Mark Company, stating that you are a reader of this journal.

"Cen Tex" No. 282,388. Central Texas Refining Co., Brownwood, Tex. For kerosene, gasoline, and lubricating oils and greases.

"Edington Certified" (the word "certified" is written across a large "E") No. 279,535. Edington Gasoline & Refining Co., Los Angeles. For gasoline, kerosene, fuel oil, lubricants; distillate, being a petroleum by-product commonly used as fuel oil.

"Red Hat" No. 281,086. Independent Oil Men of America, Chicago. For gasoline and motor-lubricating oil.

"Western Gasoline" (with picture of a lily) No. 281,325. Jiles R. Travis, Ducan, Okla. For gasoline and lubricating oils and greases.

"Benzite" No. 281,326. Jiles R. Travis, Ducan, Okla. For gasoline, lubricating oils and greases.

"Benz-O-Lite" No. 281,327. Jiles R. Travis, Ducan, Okla. For gasoline, lubricating oils and greases.

"Torch" No. 263,292. Torch Oil Co., St. Louis. For gasoline, kerosene, lubricating oils and greases.

"Edison" No. 270,832. Thomas A. Edison, Inc., West Orange, N. J. For lubricating oils.

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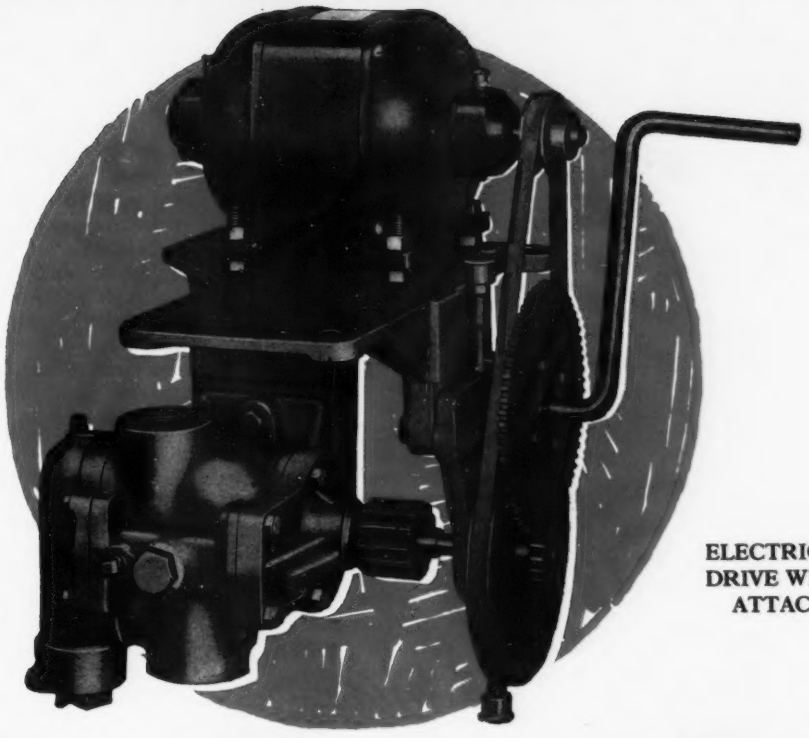

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U S A

Specifications for Grease Equipment Adopted by Weights Conference

CLEVELAND, June 22

REGULATIONS for grease equipment which the oil companies may expect to be adopted by weights and measures administrators in their states, counties, or cities, provide that new devices shall deliver in pints, multiples of pints or submultiples of pints, and that new devices shall contain an automatic indicating device, such as a meter.

These new features are provided in the specifications for grease measuring equipment adopted by the National Conference on Weights and Measures in Washington June 6 and serve as models for local regulations.

The new specifications, while not binding on local officials but usually accepted, are to become effective July 1, 1930. In the meanwhile some manufacturers of grease measuring devices are changing their models to conform to the suggested rules. However, equipment that is in use when the suggested rules become effective, is not affected by the suggestions if they come within the tolerances contained in the specifications.

Equipment that is now made to deliver grease by pounds instead of pints also will not have to be scrapped but must be plainly marked how much grease is delivered at each stroke or cycle of the operating elements.

The non-retroactive features of the specifications were adopted at a conference of the Conference Committee on Grease Measuring Specifications, of which F. S. Holbrook of the U. S. Bureau of Standards is chairman. Those that attended the conference were:

For the American Petroleum Institute—Dr. R. P. Anderson, A.P.I. technologist; G. French, Sinclair Refining Co.; Raymond Haskell and F. C. Kerns, The Texas Co.; F. N. McDermott, Atlantic Refining Co.; H. I. Morris, Sun Oil Co.; P. H. Riddle, Washington Petroleum Products Co., and J. W. Saybolt, Standard Oil Co. of New Jersey.

For the conference committee—Mr. Holbrook; William F. Cluett, inspector of weights and measures, Chicago; Charles M. Fuller, sealer of weights and measures, Los Angeles, and A. W. Schwartz, assistant superintendent of weights and measures, Elizabeth, N. J.

The revised specifications as adopted follow. Revisions from the tentative specifications adopted a year ago, are printed in italics:

NOTE: A grease weighing and dispensing device is a mechanism or machine adapted to weigh and deliver grease or transmission oil by weight. The following specifications and tolerances are not to be construed to apply to devices of this character, but only to devices of the character specifically defined below.

Definition

Definition. A mechanically operated grease measuring and dispensing device, hereinafter referred to as a grease-measuring device, is a mechanism or machine adapted to measure and deliver grease or transmission oil by definite volume. This definition is not to be construed to include devices which are obviously designed and intended solely for high-pressure lubrication of bearings and similar parts, *or devices employed solely in operations where a flat rate is charged for the operation and no variation in the charge is made on account of the supposed amount of grease or transmission oil delivered. When a device is so used there shall be no indicating device or statement purporting to indicate that any definite weighed or measured quantity can be delivered by the device.*

Specifications

No. 1. Permanence. All grease-measuring devices shall be of such design, construction, and materials that they may reasonably be expected to withstand ordinary usage without impairment of the accuracy of their measurement or the correct functioning of their operating or indicating parts.

No. 2. Units of Delivery. Grease-measuring devices shall have the following discharge capacities per stroke or per cycle of the primary indicating elements, and these only: One pint; a multiple of the pint; or a binary submultiple of the pint, that is, the quantity obtained by dividing the pint by the number 2 or a power of the number 2.

No. 3. Indication of Delivery. All grease-measuring devices shall be so designed and constructed that the initial zero condition and the amount delivered in terms of liquid measure[1] shall be clearly and definitely indicated by automatic means, and the indication of any delivery shall take place only when the full discharge has in fact occurred.

Provided, however, That a device in use at the time these specifications take effect shall not be required to comply with the above requirements for automatic indication of the amount delivered when the device delivers, within the tolerances hereinafter provided, a unit quantity of a pint, a multiple of the pint, or a binary submultiple of the pint per stroke or per cycle of its operating elements, and when, in addition, the device is conspicuously and permanently marked to indicate the value of this unit quantity.

No. 4. Sensitiveness. All grease-measuring devices shall be so designed and constructed that they can readily be operated to deliver each quantity for which a graduation, stop, or other indicating means is provided, within the tolerance on such amount hereinafter provided, and whenever any scale or dial is at some point or points or at all points the sole or most sensitive means of determining the amount of lubricant discharged, a volume of one pint shall be represented on such scale or dial by a length of not less than one inch.

No. 5. Constancy of Delivery. The amounts delivered by any grease-measuring device shall not vary from the standard by more than the tolerances hereinafter provided: (1) irrespective of the speed at which the device is operated, except that in the case of devices operated by air pressure, when operated at an air pressure lower than that specified by the manufacturer, the tolerance shall be applied in deficiency only, that is, the device shall not be deemed to be incorrect by reason of the tolerance in excess being exceeded during such method of operation, and (2) irrespective of the time elapsing between operations. In the case of all devices operated by air pressure there shall be legibly marked on the dial of the air-pressure gage, by special graduations or otherwise, the maximum and minimum working pressures recommended by the manufacturer.

No. 6. Indicating and Registering Parts. Counters and graduated scales and dials used on grease-measuring devices to tally sales and deliveries to individual purchasers or to indicate the amount delivered when any portion of the cycle or stroke has been completed shall be of such size and style and shall be so located and disposed that they may be easily read. The graduations shall be of such character and arrangement that

[1] *Devices which are at the time of adoption of these regulations in any jurisdiction marked to deliver in pounds rather than in pints and which in other respects conform to the retroactive sections of this code or are susceptible of being made so to conform, should not be condemned and confiscated on this ground alone, but the word "pound" should be obliterated wherever it occurs and the word "pint" substituted therefor. In this case the device should be readjusted if necessary.*

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the major ones are more prominent than and are clearly distinguishable from the minor ones. In all types of grease-measuring devices which utilize a graduated scale or dial to indicate the amount of lubricant discharged, the width of the graduation marks shall not exceed 0.04 inch.

No. 7. Pointers and Indicators. All pointers and indicators which when used in conjunction with a graduated scale or dial, indicate the amount of lubricant and discharged shall be so shaped that a correct and accurate indication is given. Such pointers and indicators are required to be symmetrical about the graduation lines at which they may stand and shall reach to the finest graduation marks; the width of the end of the pointer or indicator shall not be greater than the width of such marks.

No. 8. Parallax. All grease-measuring devices in which the accuracy of the readings of any indicating mechanism is affected by parallax shall be so designed and constructed as to reduce to a minimum the errors due to this cause.

No. 9. Graduated Scales to be Secured. When a grease-measuring device is provided with a graduated scale or dial, this shall be riveted or otherwise permanently attached to its supports.

No. 10. Numbering of Graduations. Figures defining the value of graduations shall be uniformly placed in reference to the graduation marks and shall be as close thereto as practicable but shall not be so placed as to interfere with the accuracy of reading.

No. 11. Lettering, Graduations. All markings, instructions, figures, and graduations required under these specifications shall be of such size, design, material and location, and shall be so applied or affixed that they will not tend easily to become obliterated or illegible.

No. 12. Movement of Indicating Element. All grease-measuring devices shall be so designed and constructed that the indicating element used in tallying deliveries to individual purchasers shall be susceptible of forward movement only by the mechanical operation of the device itself. The indicating element shall be returnable readily to a definite and clear zero indication before the next delivery is begun. Means shall be provided to prevent the indicating element from being returned beyond the zero indication.

No. 13. Stops to be Positive. When stops or other stroke-limiting devices are employed on a grease-measuring device and these are subject to direct pressure, or impact, in the operation of the device, such stops shall be of such construction that the permanence and security of their positions is provided for by a positive, non-frictional engagement of the parts whose relative motions are to be prevented. Such stops shall be so designed and constructed that adjustment within the prescribed tolerances can be made.

No. 14. Stop Mechanism to be Definitely Positioned. All grease-measuring devices designed to deliver two or more different predetermined amounts by bringing into operation different stops or other means of defining the delivery, shall be so designed and constructed, that the position for the proper setting of each stop is definitely and accurately defined, inadvertent displacement from this position is obstructed, and the delivery for which the device is set any time is clearly and conspicuously indicated.

No. 15. Provision for Sealing. All devices, adapted to be altered for adjusting or correcting the delivery of a grease-measuring device, shall be of such construction that they can be sealed, either separately or together, in such a manner that the position of none of them can be changed without destroying the seal or seals.

No. 16. Use of Adjustments. No adjustment of the delivery of a defined-stroke grease-measuring device shall be permitted except that intended to produce a piston displacement per cycle of 28.875 cubic inches per indicated pint of delivery. Adjustments of piston displacement to correct for leaks, slippage, or other defects shall not be permitted.

No. 17. Assurance of Complete Delivery. All grease-measuring devices shall be so designed and constructed that there shall be no means provided by which any of the measured lubricant can be diverted from the measuring chamber or the discharge line to the supply tank or elsewhere, during the period of operation of the device. All valves in the supply line intended to prevent the reversal of flow of the lubricant shall be of such design and construction that their closure is automatically effected in the use of the device.

No. 18. Use Limited to Certain Lubricants. Grease-measuring devices which will not give correct results except when used with lubricants having particular properties, shall be conspicuously, clearly, and permanently marked to indicate this limitation.

No. 19. Fraudulent Construction Prohibited. All grease-measuring devices and all devices designed to be attached thereto and used in connection therewith shall be of such design and construction that they do not facilitate the perpetration of fraud.

No. 20. Metric System. No specification contained in the preceding pages shall be understood or construed to prohibit the sale or use of grease-measuring devices constructed or graduated in units of the metric system.

The tolerances to be allowed on any grease-measuring device constructed or graduated in units of the metric system, shall be the same as those specified on similar apparatus of an equivalent size or at an equivalent capacity in the customary system.

Tolerances

Except under special conditions as described in Specification No. 5, the tolerances to be allowed in excess of deficiency on all grease-measuring devices shall be 1¼ cubic inches (about ⅝ liquid ounce) on a delivery of 1 pint or less; for deliveries of more than 1 pint add 1 cubic inch (about ½ liquid ounce) per indicated pint; Provided, however, That the manufacturers' tolerances or the tolerances on all new grease-measuring devices shall be one-half of the values given; and provided further that these latter tolerances shall also be applied to all devices which are being retested after being found incorrect and subsequently adjusted or repaired.

General Notes

Device to Indicate Exhaustion of Supply. The Conference goes on record to the effect that it is its opinion that such a device as is mentioned in the following paragraph is a very desirable one but considers that the time is not yet ripe to recommend its adoption. The Conference suggests, however, that at some future time steps may be taken to incorporate the following paragraph in the code of specifications.

"All grease-measuring devices shall be provided with a device which will make the unit inoperable when the supply of grease or transmission oil has reached a point where the accuracy of delivery would be affected, or shall be so constructed as to warn the purchaser and the operator in a conspicuous and distinct manner that the level of the supply is so low as to endanger the accuracy of the measurement."

In the adoption of these specifications it was agreed that certain portions of Section 4, all of Section 5, and the word "easily" in the phrase "may be easily read" in the first sentence of Section 6, should be made non-retroactive. The non-retroactive features of Section 4 are underlined below:

No. 4. Sensitiveness. All grease-measuring devices shall be so designed and constructed that they can *readily* be operated to deliver each quantity for which a graduation, stop, or other indicating means is provided, within the tolerance on such amount hereinafter provided, *and whenever any scale or dial is at some point or points or at all points the sole or most sensitive means of determining the amount of lubricant discharged, a volume of 1 pint shall be represented on such scale or dial by a length of not less than 1 inch.*

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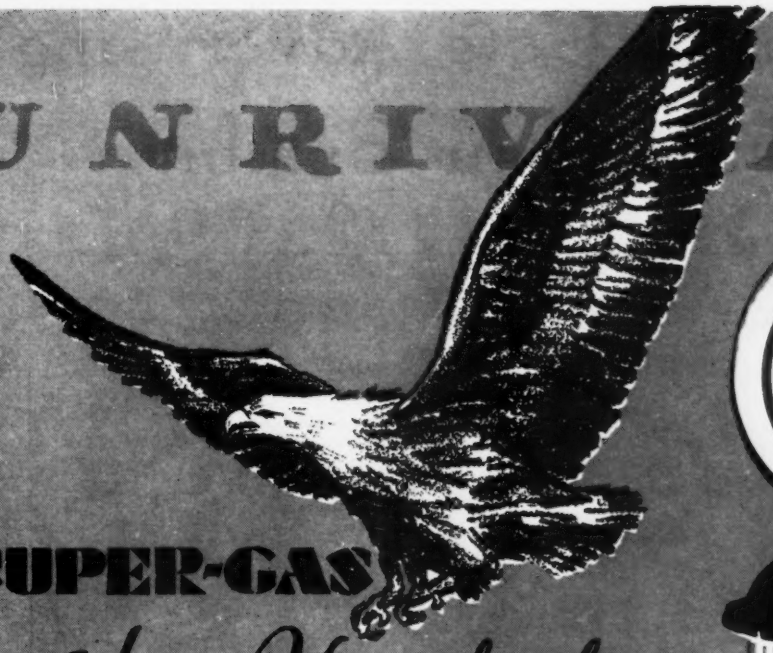

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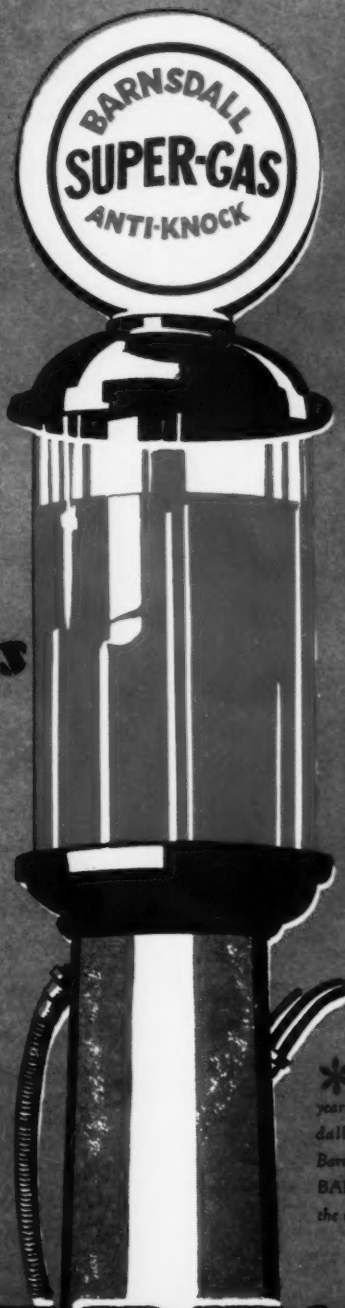

*In 1860, almost 70 years ago, William Barnsdall, father of T. N. Barnsdall, the founder of BARNSDALL, established the world's first oil refinery.

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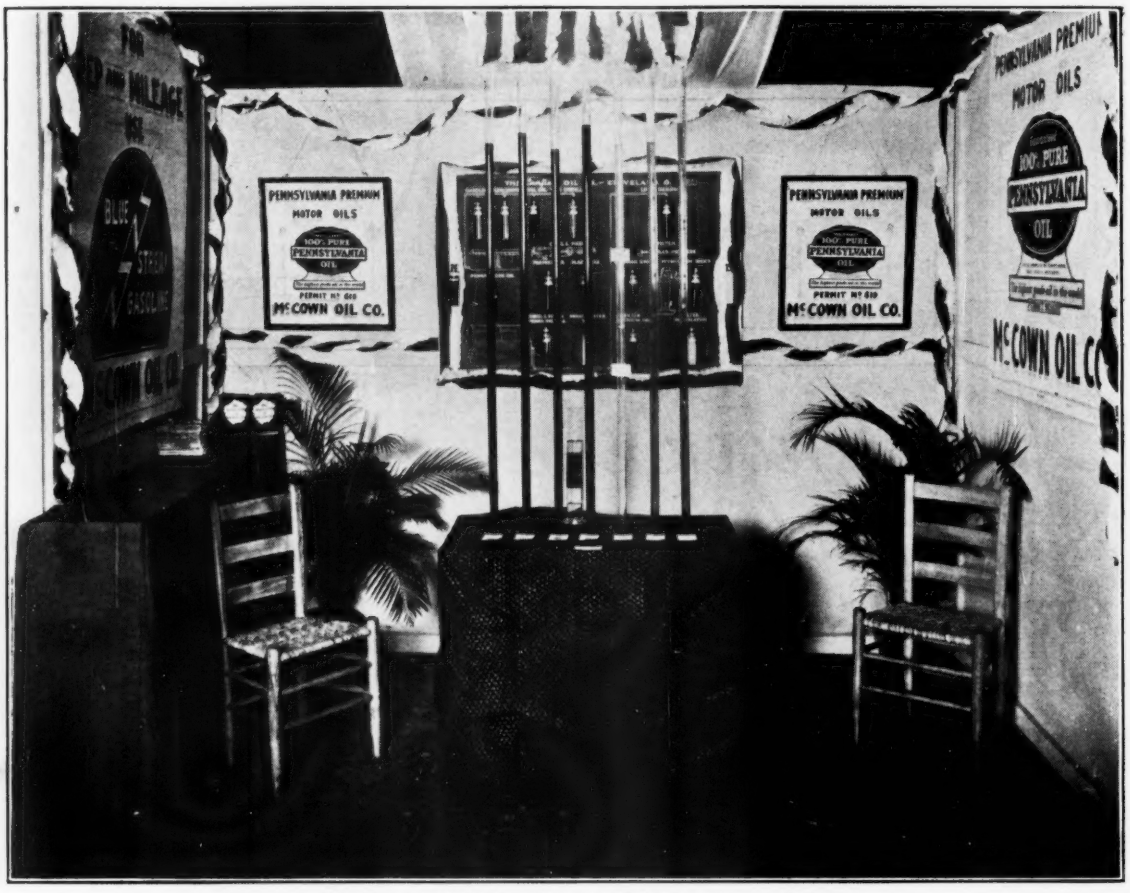
Mobile Jobber Gets Advertising Value From Fair Exhibit



McCown Oil Co. booth at Mobile trade exhibit

By Ward K. Halbert
N. P. N. STAFF WRITER

MOBILE, Ala.

COUNTY fairs present a difficult problem to Independent oil men in farming communities. Of course the local oil jobber has to take part in his county fair if he is asked to do so. All the leading business people do it and he is one of them. His customers and his friends demand it of him whether it is profitable or not.

While the county fair is an opportunity for some business men to exhibit their merchandise to their customers, it offers no particular advantage to an oil man in that regard. He can rent a booth from the fair commission, pay a good price for it, get his name published in the home town paper in the list of exhibitors and charge the expense to "advertising" where so many benevolences are wrongly classified. Really it is a miscellaneous expense.

Ordinarily the jobber can see but little return from using his rented space. If he exhibits cans of oil and packages of grease, it is more from pride than hope of gain. If he puts somebody in charge, that is still more expense. What to do, is a puzzle.

J. M. McCown, president of the McCown Oil Co., of Mobile, Ala., worked it out a few months ago. He built an attractive exhibit; one that would induce people to ask intelligent questions.

Aside from routine decorations the exhibit consisted of seven one-inch glass tubes filled with oil and standing erect on a draped table with bubbles rising through the tubes. The glass tubes were six feet long but the lower end of each was under the table and the upper ends were hid behind a piece of drapery. With correct electric lighting, it was enough to make anybody stop and look, even an oil refiner.

An accompanying photograph shows what the booth looked like from the point where the people stood who attended the fair. A small drawing shows the detail of construction, letting the readers of NATIONAL PETROLEUM NEWS know what took place under the table. It was not an expensive exhibit nor was it a hard one to arrange, except that it required some originality.

The occasion of Mr. McCown's exhibit was not a county fair but it had many of the same aspects. The Mobile Chamber of Commerce was holding a "trade exhibit" which was staged in Bienville Square, a wooded block in the heart of the city's business district. The little park was bordered with 100 booths, 10 x 10 feet. The business men paid for the booths and the people paid admission to visit the exhibition.

The McCown Oil Co. is southern distributor for Pennsylvania Premium motor oil, a 100 per cent Pennsylvania product, Permit No. 610, sold under the McCown name and com-

(*Continued on Page* 104)

NEW and Distinctive

NATIONAL SAFETY CHESTS

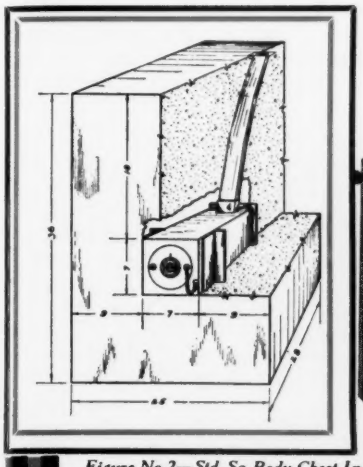
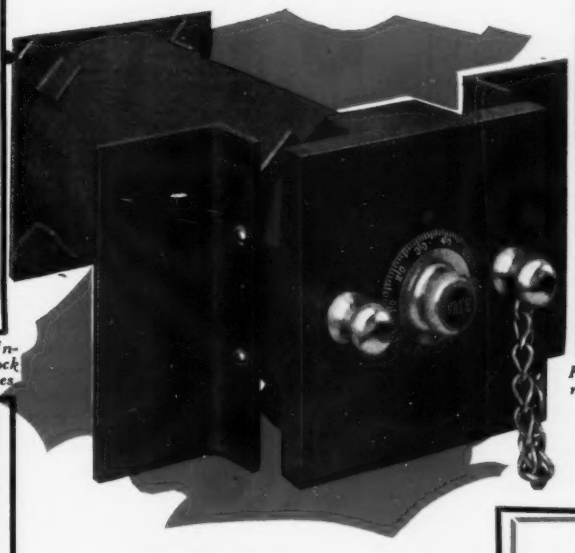


Figure No. 2—Std. Sq. Body Chest Installed in Reinforced Concrete Block With Chute For Small Size Envelopes



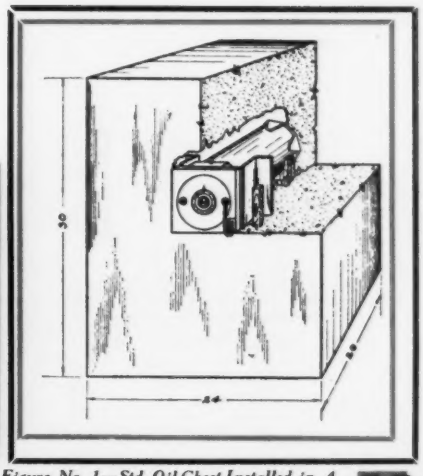


Figure No. 1—Std. Oil Chest Installed in A reinforced Concrete Block Without Chute.

Figure No. 5—Std. Sq. Body Chest Installed Vertically In Floor With Chute At Side Of Chest For Small Size Envelopes

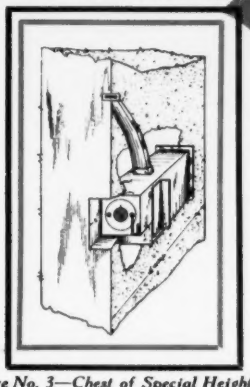
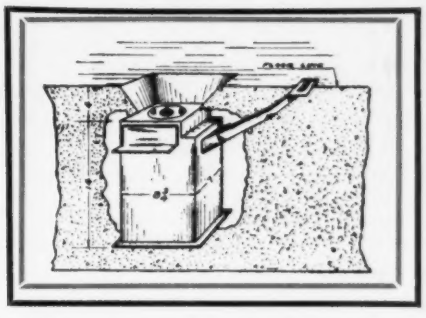


Figure No. 3—Chest of Special Height and Depth Installed With Chute Opening Above Chest Door—For Regular Size Envelopes.

Protection from

$37.50 UP



Absolute Protection for Your Station Money at Extremely Low Cost

Now you can foil the "hold-up-man" and safeguard your filling station moneys, decrease high insurance rates, and cut collection expense. All at surprisingly low initial cost . . . . and practically no upkeep.

After months of research and the making of many practical tests the National Safe and Lock Company offer you "National Safety Chests",—safes that will withstand any form of attack—at only $37.50 each, with discounts in quantities.

These "Safety Chests" are built to meet the two most important filling station requirements—complete protection and convenience in use. Designed especially as filling station equipment they have already found quick acceptance and have proved their value by successfully resisting numerous actual burglar attacks.

The Standard Oil Company, of Indiana, after submitting National Safety Chests to every known form of destructive tests in their laboratories, have installed nearly a thousand (1000) of these chests in their stations in Chicago, Milwaukee, Kansas City, St. Louis, Indianapolis, St. Paul, and Minneapolis. Here's your opportunity for adequate, complete station protection at prices never before available to the industry. Mail the coupon today.

5 Reasons for Immediate Action

- ¶ Removable dial, discouraging sledging.
- ¶ Yale lock with special graduated spindle flush with door.
- ¶ Immediate access after attack without services of expert.
- ¶ Repair parts at trivial cost.
- ¶ Eliminates necessity of high priced insurance.

ESTABLISHED 1883—44 YEARS AGO

THE NATIONAL SAFE AND LOCK COMPANY

GENERAL OFFICES—2345 EAST 69th STREET
WORKS—EAST 69th to 70th St. AND PENNSYLVANIA R. R.

CLEVELAND, U. S. A.

THE NATIONAL SAFE & LOCK CO.
2345 East 69th St., Cleveland, Ohio

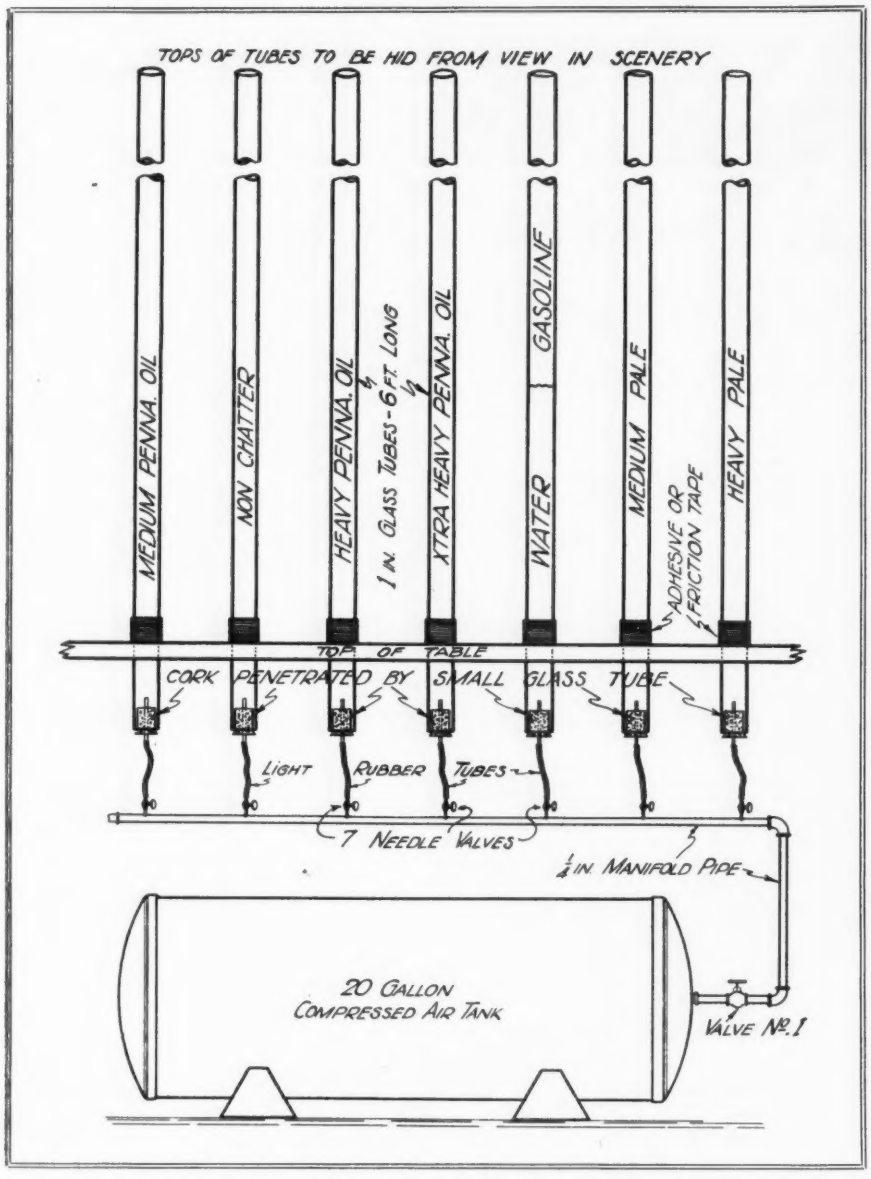
☐ Enclosed please find my check for . . . National Chests at $37.50 each without chute. It is understood that if they do not satisfy for any reason they may be returned with full credit.

☐ Please send me further information on the protection offered by National Chest, figure (1)(2)(3)(5).

Name . . . . . .

Address . . . . . .

City . . . . . State . . . . . .



Details of oil exhibit with air tank and connections

pounded by an eastern refiner. Mr. McCown wished to display three grades of Pennsylvania Premium, two grades of Gulf Coast pale oil and a special non-chatter oil besides gasoline. Thus it was necessary to use seven tubes.

Seven one-inch holes were bored in the top of a table so the glass tubes would fit in them. To prevent the tubes from slipping too far through the holes, a bushing was improvised by wrapping a few turns of friction tape around the glass a few inches from the lower end. The bottom of each tube was closed tightly with a cork, but each cork was penetrated by a very small glass tube, also fitted tightly.

The tiny glass tubes were about three inches long and about a quarter of an inch in diameter. The holes through them were not much larger than a broomstraw. The upper ends of the long glass tubes were steadied with taut cords like guy-lines, all concealed in the crepe paper festoons overhead. The machinery to make the bubbles was installed under the table.

Bubbles enough to keep the exhibit alive for a whole day were stored in a 20-gallon compressed air tank under the table. The one Mr. McCown used had been used before on a road-service truck by a tire establishment. Two air tanks were kept in service for that week. The exhausted one was taken out and charged each day and replaced by a full one. Although it would be a little more trouble, one tank would be enough.

The outlet for the air from the tank was a quarter-inch pipe, arranged as shown in the drawing for sake of compactness, so it could be hid from view under the table. Near end of the tank was a master valve to control the flow of air from the tank and regulate the pressure in the little, improvised manifold.

The manifold was only a continuation of the quarter-inch pipe from the air tank, closed at the end and equipped with seven small nipples and needle-valves. Connections throughout the manifold (from the tank to the last needle valve) must be good connections and fitted with white lead on the threads to make them air tight.

The compressed air tank, with the manifold attached to it, is installed under the wooden table supporting the glass tubes. The small nipples at the seven needle valves on the manifold are connected with the seven tiny glass tubes in the corks, each by a little rubber hose such as is used in various types of laboratory equipment.

In this way a flow of air is directed from the tank upward through the tall glass tubes. The several grades of oil are poured into the big glass tubes, filling them to a level above the crepe paper screen overhead. The flood light on the columns of oil with bubbles rising through them make a spectacular exhibit for the eyes of people not accustomed to looking at various grades of oil.

The elaborate array of valves is necessary because of the difference in the character of the oils. The wide range of viscosity between the extra heavy motor oil and the gasoline, for instance, illustrates the need. The amount of air required to make an interesting flow of bubbles through one product would not look so well in the other. The amount of air in each tube is regulated with its individual needle valve—regulated to effect a pleasing appearance only.

The function of Valve No. 1 is to keep the flow uniform. All the time the exhibit is being shown the air pressure in the tank is going down. To keep the bubble flow uniform with a constantly diminishing pressure it is necessary to open the main valve a little from time to time. This can be done without molesting the small valves after they are once set.

The man in charge of Mr. McCown's exhibit experimented with his equipment some before the first day of the "trade exhibit." Until a man is familiar with the apparatus and has it in perfect order he is likely to permit an accident, not dangerous but embarrassing. Enough pressure released at the wrong time can blow all the oil in one of the tubes out the top.

The rising bubbles served mostly to give the visitors an idea of viscosity. It was colorful and attractive, and proved interesting when examined closely. This stimulated the visitors to ask questions and enabled Mr. McCown and his associates to make some good scores in personal advertising.

Tube No. 5 brought on more conversation than any of the others. It was half full of water and half full

GRACO Lubricators

Portable Pistol Gun

The Pistol Lubricator complete with portable tank is intended for use by Oil Companies, Garages, and Service Stations, where a single greasing unit is sufficient and portability is desired.

The Pistol Gun is air operated and entirely automatic. The well known Graco principles of high pressure, single shot, and simplicity of mechanical construction are the chief attributes of this unit. It will develop from 5000 to 8000 pounds grease pressure. The tank has a capacity for 75 pounds of lubricant.

The Graco Line Is Complete

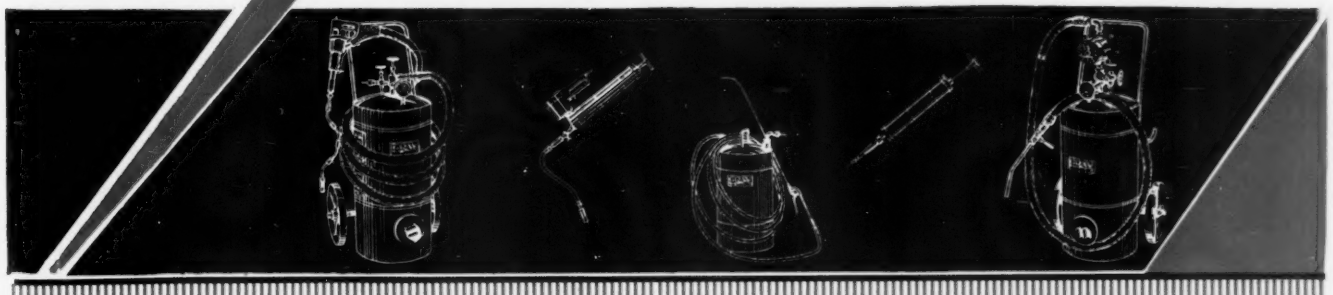
The Graco Line includes the Meter Gun, Spring Spray Gun, Air Junior and Push Gun in addition to the Pistol Gun. All are adaptable to multiple installation. One central supply unit will serve several pits, racks or lifts.

Your local automotive or oil equipment jobber will supply complete information and prices. If this information cannot be secured locally, write to us direct.

GRAY COMPANY, INC.

Exclusive Manufacturers of Commercial Lubricating Equipment

120 South Tenth Street - - - Minneapolis, Minnesota



Oil Merchandising

An average of more than 10 stories per month have been published in National Petroleum News since the first of the year on oil merchandising problems.

Here are 66 of the more important ones that have appeared since January on oil selling methods:

1929

Roadside stations must sell merchandise also June 12, p. 82
Careful survey needed before building one-stop station June 12, p. 88
Keeps warm oil to save truck time June 12, p. 108
Even color, trained attendants at Ohio Standard's new super station June 12, p. 94
Alabama jobber builds big business in special oils June 12, p. 105
Oil man has building and loan department for dealers June 12, p. 110
Small jobbers make money on motor oils alone May 29, p. 84
30-day credit enforced in wheat belt May 22, p. 34
Big companies dominate distribution in Florida May 22, p. 96
Opportunity for jobbers to help grease sales May 22, p. 120
Marketer finds free parking not profitable May 22, p. 136
Tire companies help dealers build one-stop service stations May 15, p. 30
Grease stations may have to get new equipment May 15, p. 32
Station location, not building, most important May 15, p. 113
Marketer beat bushes for business May 8, p. 92
Forms finance company on cash basis May 8, p. 106
Fishing tackle profitable sideline May 8, p. 111
Oil companies may aid tire dealers in building super stations May 1, p. 40-a
Two small trailers deliver 6986 gals. a day May 1, p. 40-b
Governors boost tourist campaign May 1, p. 86
Light truck tractors given hard road tests April 24, p. 32
Tourist camp a good advertisement April 24, p. 93
Marketer takes lubrication to farm trade April 24, p. 104
Wooden Indian is trade puller April 24, p. 112
Accessory, department and hardware stores compete for motor oil April 17, p. 101
Offers trip as sales prize to agents April 17, p. 107
Dance, dine, play bridge at super station April 3, p. 82
How S. O. Ohio won back lost gallonage March 27, p. 29
Neway cleaning attracts hurrying motorists March 27, p. 77
Sure method to lubricate car thoroughly March 20, p. 178
Telephone boosts sales March 20, p. 81
Sales methods at New Zealand station March 20, p. 85
Goodwill of burner oil service will get gasoline customers March 20, p. 172
Phone book prospects turn into customers March 20, p. 85
Ads urge public to support neighborhood stations March 20, p. 78
Speed, without sacrificing thoroness March 20, p. 118
How stations can make more of tourist information bureaus March 20, p. 91
How tourist campaign boosted sales and helped whole town March 20, p. 97
Seeks business for one station from Chicago to Pittsburgh March 20, p. 101
New jobber to handle lubes, kerosene—no gasoline March 20, p. 86
Trucking 1,000,000 gals. a month from 1 bulk station March 20, p. 114
Maximum window display space March 20, p. 192
Bigger sales for local marketer from right advertising March 20, p. 131
Use of city directory a station service March 20, p. 159
Tourist camps pay jobbers March 20, p. 161
DeLuxe stations in California's shopping centers March 13, p. 95
Merchandising plan, not grease, got Ford approval for Alemite March 6, p. 80
Parades and radio boost grease sales Feb. 27, p. 98
Oil in 1-gallon cans sells faster Feb. 27, p. 100
Sales force conspires 1 hr. daily to boost sales Feb. 20, p. 76
Builds hotel for motor tourists Feb. 13, p. 90
Speed, thoroness, promised in greasing Feb. 13, p. 96
Keep everlastingly after station attendants Feb. 13, p. 99
New service is 'phone in auto Feb. 6, p. 26
Cashes emergency checks at stations as preferred service Feb. 6, p. 78
Sells motor oil, pop, in bottles Feb. 6, p. 91
In dressing up station, ask wife Feb. 6, p. 103
Inviting outdoor rest rooms in California Feb. 6, p. 104
Decorates stations and homes for Xmas Feb. 6, p. 106
Greasing profits lost at most stations Jan. 30, p. 75
What one station operator did between sales Jan. 30, p. 96
Selling lubes and greases Jan. 16, p. 87
Auto department stores, Chicago has "largest" Jan. 16, p. 91
Marketer to build 3 tourist terminal stations Jan. 9, p. 105
The man at the pump has his say Jan. 9, p. 85
Paints scenery for filling station Jan. 2, p. 30

Back copies of any of the above issues are 25c a copy. On issues that are exhausted, photostats will be furnished at 40c per page. Libraries in the larger cities generally keep back files of *National Petroleum News* complete.

National Petroleum News

Main Office: 1213 West Third St. Cleveland, Ohio

of gasoline. The rising bubbles moved much more rapidly through the gasoline than through the water. Persons standing about the booth could see easily the surface between the two liquids. With this experiment, several of them learned for the first time that no oil man was ever foolish enough to adulterate gasoline with water. A great many of them found out how easily water could be taken from a gasoline tank if it accumulated there.

Aside from what was on the table and under it, the booth was very simple. "Blue Streak" gasoline was advertised on one wall and "Pennsylvania Premium" motor oil on the other. The 100 per cent pure Pennsylvania emblem was featured on the back wall of the booth, which was furnished with the usual rug, chairs, palms and paper festoons.

The table was draped with cloth of gold and black. It hid the air tank and manifold from the public view and the color scheme contributed to the air of mysticism. "Houdini is under the table," was the answer given curious little boys who wanted to know where the bubbles came from.

The white cards on the table (showing in the picture) were placed, one in front of each tube of oil. They told what kind of oil was in each tube. The tall test tube in front of the rest of the exhibit was a more elaborate demonstration of the various weights of commonly known liquids. The test tube was marked "A Petroleum Horse's Neck." It contained five different liquids.

In the bottom of the test tube was carbon tetra chloride, such as is used in fire extinguishers. Above that was a stratum of water. Next came a layer of heavy Texas pale motor oil and above that some light Pennsylvania. On top was gasoline. Only the light motor oil and the gasoline "bled" together. The others remained in perfect stratification.

The Mobile Trade Exhibit was open only from noon to midnight. About the same hours are in effect at county fairs and celebrations of that sort generally. This gives ample time in the forenoon to prepare a lively exhibit.

Although the McCown Oil Co. does an extensive amount of novelty advertising, Mr. McCown says he has never done anything that stimulated more comment or created more favorable reactions among customers than this elaborate exhibit of the petroleum products themselves.

Monthly Oil Sales INCREASE from 25,952 gallons to 34,807*

Added monthly sales of nearly 10,000 gallons of lube oil for 65 service stations—after the installation of the Bowser Fountain of Illuminated Oil.

The Fountain's not a luxury outfit—but a sensible merchandising medium for lube oils for both large and small service stations. It does *increase* oil sales, gas sales, too. It does *increase* oil profits—and with the *added* profits it will pay for itself in a short time. In fact the average is about 7½ months, which is far less time than Bowser gives you on the special fountain payment plan.

Build your oil sales—your oil profits with this modern lube oil merchandiser.

S. F. BOWSER & CO., INC.
1302 Creighton Ave. Fort Wayne, Ind.

FOUNTAIN OF ILLUMINATED OIL

BOWSER
ESTABLISHED 1885

Use this convenient coupon. More information will be cheerfully furnished, and of course there is no obligation.

S. F. Bowser & Co., Inc.
1302 Creighton Ave., Fort Wayne, Ind.

★Please send a copy of the survey which shows the facts and figures on actual Fountain performance.
Send information on the Fountain special payment plan.

Name.....

Address.....

Bottle Fold Type Folio

Your Name in Gold Free

Complete with Bottle Fold and Bottles *only* **$15.30**

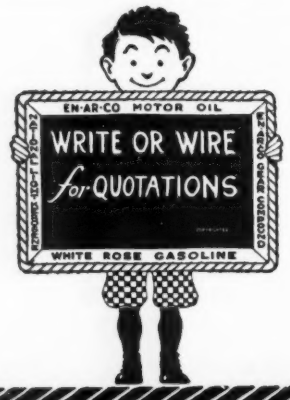
364—A very complete and practical folio made from heavy 5-oz. black cowhide. 3¼-inch pocket that holds leather handled bottle fold. Contains sixteen 4-oz. plain bottles. One-inch pocket for stationery. Leather case containing six ½ oz. jars $3.25 additional.

Other styles in our FREE Catalog

L-U-C-E

Builders of Sales Luggage

614 Delaware Kansas City, Mo.



En-ar-co
MOTOR OIL
White Rose
GASOLINE

YOU will make money if you handle these nationally advertised brands.

All grades of lubricating oils and greases.

The National Refining Co.
Cleveland, Ohio

ON THE LAZY BENCH

National Petroleum News

Rules For a Short Life

Always drive fast out of alleys.

Always race with locomotives to crossings. Engineers like it; it breaks the monotony of their jobs.

Always pass the car ahead of you on curves or turns. Don't use your horn, it may unnerve the other fellow and cause him to turn out too far.

Demand half the road—the middle half. Insist on your rights.

Always speed! It shows people you are a man of pep even though you are an amateur driver.

Never stop, look or listen at railroad crossings. It consumes time.

Drive confidently, just as though there were not eighteen million other cars in service.

—Pure Oil News

* * *

Found Out

John: "What do you mean dear, when you say I've been deceiving you for years?"

Helen: "I've just found out that you get a $2,000 allowance on your income tax return for being married and you only give me a miserable $10 per week."

—Mid-Continent Petroleum Courier

* * *

Bald teacher: "Now boys, after what I have told you, can any of you define nothing?"

Little Freddie: "Yes, sir, I can."

Teacher: "Well, how would you describe it?"

Little Freddie: "Please, sir, it's what you have on the top of your head."

—Heil Quality News

* * *

"I am sorry I married you," sobbed the bride.

"You ought to be," he replied. "You cheated some other girl out of a mighty fine husband."

—Magnolia Oil News

* * *

A man running after a taxicab, panted to the driver, "How much to the station from here?"

"Fifty cents," replied the driver.

The man continued to run, and having covered another stretch, inquired breathlessly of the driver, "How much now?"

"Seventy-five," retorted the driver, "ye're runnin' the wrong way."

—Fusion Facts

There is a story of a certain sea captain and his chief engineer who were constantly debating whom the ship could more easily dispense with, until one day they agreed to swap places. The chief ascended to the bridge and the skipper dived into the engine room. After a couple of hours the captain suddenly appeared on deck covered with oil and soot. One eye was swollen shut and he was very much the worse for wear.

"Chief!" he called, wildly beckoning with a monkey wrench. "You'll have to come down here at once. I can't make her go."

"Of course you can't," said the chief, calmly removing his pipe from his mouth. "She's ashore."

—Barnsdall

* * *

Then Set Him On Fire

A colored pastor opened his service with this prayer: "O Lord, give dy servant dis mawning de eyes of de eagle and the wisdom of de fowl; conneck his soul wid de gospel telefoam of de central skies; luminate his brow wid love of dis people; turpentine his imagination; grease his lips wid possum oil; loose his tongue wid the sledge hammer of dy power; electricity his brain wid de lightning of dy word; put perpetual motion in his arms; fill him plumb full of de dynamite of dy glory, noint him all over wid de kerosene of dy salvation —and den—set him on fire."

—Pure Oil News

* * *

He: "Are you going to the big dance at the Union Station tonight?"

She: "No, I hadn't heard about it."

He: "Two trains are going to Charleston."

—The Sohioan

* * *

"He has a profession, eh?"

"Sure—you couldn't get him to work."

—Mid-Continent Petroleum Courier

* * *

Fun is like insurance: the older you get the more it costs you.

—Harvester World

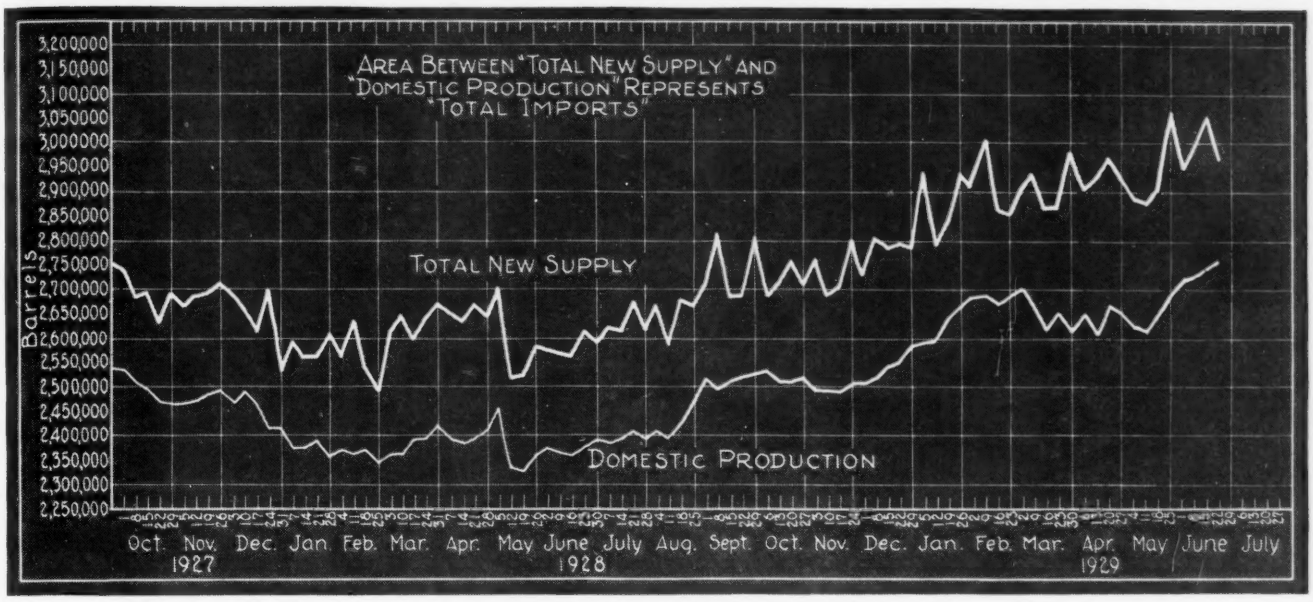
* * *

It Does Help

There's one thing nice about airplane travel. The roar of the motor drowns any comment coming from the back seat.

—Magnolia Oil News

Daily Average Crude Oil Production and Imports



Daily average gross output of United States, by fields, for week ending with dates below as compiled by American Petroleum Institute

PRODUCTION SUMMARY

	June 22	June 15
Production east of Rockies	**1,929,000**	**1,927,950**
Increase		**1,050**
Total production in U. S.	**2,764,500**	**2,743,250**
Increase		**21,250**
Crude oil imports	**208,571**	**322,571**
Decrease		**114,000**
Total crude supply	**2,973,071**	**3,065,821**
Decrease		**92,750**

OKLAHOMA

	June 22	June 15
Allen Dome	23,450	23,050
Blackwell	3,750	3,850
Bowlegs	35,100	35,000
Braman	3,700	3,800
Bristow-Slick	18,850	19,300
Burbank	19,800	19,850
Cromwell	8,100	8,100
Cushing	18,750	19,200
Davenport	1,450	1,450
Duncan District	7,200	6,750
Earlsboro	63,000	59,900
Fox	1,400	1,400
Garber	5,750	5,800
Graham	4,250	4,200
Healdton	12,800	12,800
Hewitt	8,100	*8,200
Hubbard	1,850	1,850
Little River	78,500	76,650
Logan County	16,650	15,600
Maud	26,650	26,800
Mission	34,900	38,050
North Okmulgee	13,000	13,000
Oklahoma City	3,200	2,500
Osage (outside Burbank)	26,350	25,600
Papoose	3,250	3,300
Pearson	1,350	1,500
St. Louis	88,600	87,200
Scholem-Alechem	12,650	12,900
Searight	11,800	12,050
Seminole	33,950	34,800
South Okmulgee	7,700	7,700
Thomas	900	900
Tonkawa	9,900	10,050
Wewoka	4,800	4,800
Yale-Jennings	7,000	6,800
Others	61,200	60,000
Total, Oklahoma	679,650	674,700
Increase		4,950

KANSAS

Augusta-Fox Bush	3,100	2,950
Churchill	6,350	6,500
El Dorado-Towanda	12,950	12,950
Florence-Covert	950	950
Greenwood County	21,500	21,050
Oxford	4,550	4,450
Peabody-Elbing	2,800	2,700
Rainbow Bend	1,100	1,050
Russell	3,350	3,350
Sedgwick County	34,250	35,050
Others	30,500	29,800
Total, Kansas	121,400	120,800
Increase		600

NORTH LOUISIANA

Bellevue	600	600
Caddo, light	9,100	9,850
Caddo, heavy	3,400	3,100
Cotton Valley	2,700	2,800
De Soto and Red River	3,800	3,900
Elm Grove	600	650
Haynesville	5,200	5,200
Homer	3,950	3,950
Pleasant Hill	450	450
Urania	5,950	6,000
Others	250	250
Total, North Louisiana	36,000	36,750
Decrease		750

ARKANSAS

Champagnolle	7,250	7,350
El Dorado	4,600	4,600
Lisbon	1,250	1,350
Nevada	950	950
Smackover, light	6,100	6,050
Smackover, heavy	48,550	48,550
Stephens	1,000	1,000
Others	100	100
Total, Arkansas	69,800	69,950
Decrease		150

TEXAS (Outside Gulf Coast)

Panhandle District

Carson County	7,500	7,300
Gray County	58,400	50,750
Hutchinson County	26,000	26,100
Wheeler County	750	900
Others	1,200	1,400
Total, Panhandle Texas	93,850	86,450
Increase		7,400

North Texas

Archer County	17,200	17,150
Burkburnett	8,900	9,050
Electra	12,200	12,100
Iowa Park and K. M. A.	5,000	5,050
Montague-Cooke	12,750	12,600
Wilbarger	26,400	26,750
Others	700	600
Total, North Texas	83,150	83,300
Decrease		150

West Central Texas

Brown County	7,600	7,550
Callahan County	4,150	3,950
Coleman County	3,700	3,800
Eastland-Desdemona	6,450	6,500
Jack County	2,700	2,650
Palo Pinto County	400	400
Shackelford County	11,650	11,750
Stephens County	6,200	6,300
Throckmorton County	600	600
Young County	6,800	6,900
Others	600	600
Total, West Central Texas	50,850	51,000
Decrease		150

West Texas

	June 22	June 15
Crane and Upton Counties	46,700	47,000
Crockett County	2,000	2,100
Howard County	44,000	43,750
Jones County	3,450	3,750
Mitchell and Scurry Counties	2,700	2,700
Pecos County	95,500	104,900
Reagan County	18,400	18,100
Winkler County	144,300	143,700
Others	1,750	1,800
Total, West Texas	358,800	367,800
Decrease		9,000

East Central Texas

Boggy Creek	2,900	2,800
Corsicana-Powell	7,800	7,950
Currie	400	400
Mexia	5,700	5,850
Nigger Creek	500	500
Richland	400	400
Wortham	1,000	1,100
Total, East Central Texas	18,700	19,000
Decrease		300

Southwest Texas

Dale	450	500
Laredo District	11,000	*11,100
Luling	11,800	11,900
Lytton Springs	900	900
Salt Flat	52,000	50,200
Somerset	1,750	1,850
Others	3,900	4,050
Total, Southwest Texas	81,800	80,500
Increase		1,300
Total, Texas (Outside Gulf Coast)	687,150	688,050
Decrease		900

GULF COAST

Coastal Texas

Barbers Hill	8,750	8,300
Batson	1,500	1,400
Big Creek	3,050	2,050
Blue Ridge	4,000	3,550
Boling	1,600	1,700
Damon Mound	700	600
Goose Creek	5,800	5,900
Hull	8,950	9,500
Humble	5,650	5,900
Orange County	2,900	2,900
Pierce Junction	18,700	18,800
Raccoon Bend	6,100	5,950
Saratoga	850	900
Somerville	2,600	2,700
Sour Lake	2,700	2,750
South Liberty	5,400	5,500
Spindletop	26,400	25,750
Sugarland	11,100	11,150
West Columbia	6,300	6,350
Others	4,250	3,800
Total, Coastal Texas	127,300	125,450
Increase		1,850

Coastal Louisiana

East Hackberry	2,100	2,200
Edgerly	750	700
Evangeline	2,950	3,350
Lockport	3,950	4,100
Old Hackberry	2,400	2,500
Sorrento Dome	200	250
Sulphur Dome	2,000	2,200
Sweet Lake	300	500
Vinton	4,500	5,000
Others	800	1,050
Total, Coastal Louisiana	19,950	21,850
Decrease		1,900
Total Gulf Coast	147,250	147,300
Decrease		50

ROCKY MOUNTAIN

Wyoming

Big Muddy	2,250	2,250
Elk Basin	800	750
Grass Creek	2,250	2,350
Labarge	2,100	1,750
Lance Creek	250	250
Lost Soldier	4,050	3,300
Oregon Basin	4,300	4,100
Rock Creek	2,250	2,250
Salt Creek	27,250	31,050
Others	4,550	4,000
Total, Wyoming	50,050	52,050
Decrease		2,000

Montana

Cat Creek	1,450	1,400
Pondera	3,150	3,150
Sunburst	6,850	6,850
Others	100	100
Total, Montana	11,550	11,500
Increase		50

Colorado

Florence	900	950
Fort Collins	2,450	2,500
Moffat (Craig)	1,300	1,650
Others	2,350	2,600
Total, Colorado	7,000	7,700
Decrease		700

New Mexico

Artesia	900	900
Hogback	200	200
Rattlesnake	100	1,150
Table Mesa	650	.....
Others	400	400
Total, New Mexico	2,250	2,650
Decrease		400
Total, Rocky Mountain	70,850	73,900
Decrease		3,050

CALIFORNIA

Dominguez	10,000	10,000
Elwood-Goleta	27,000	26,600
Huntington Beach	40,500	42,500
Inglewood	22,300	22,500
Kettleman Hills	3,400	3,400
Long Beach	174,000	175,000
Midway-Sunset	64,000	64,000
Rosecrans	5,300	5,300
Santa Fe Springs	246,500	222,500
Seal Beach	47,000	44,000
Torrance	13,000	13,500
Ventura Avenue	60,000	62,500
Others	122,500	123,500
Total, California	835,500	815,300
Increase		20,200

EASTERN

(Including Ill., Ind., Ky., O., W. Va., Pa., and N. Y.)	116,900	116,500
Increase		400

*Revised.

Compilation Of Mid-Continent Refinery Operations

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National Petroleum News

Mid-Continent Refinery Operations Week Ended June 21 (By Telegraph)

	Kansas	Oklahoma	North & Cent. Texas	West Texas	North La.-Ark.	Total Week Ended June 21
Plants Reporting	12	29	25	15	12	93
Da. Av. Cap. (Bbls.)	92,000	160,200	86,600	81,500	54,900	475,200
Da. Cracking Capacity	30,700	52,600	17,200	.....	22,700	123,200
Da. Av. Crude Runs	65,081 + 7.5	109,376 — 97.1	68,535 + 6.2	51,207 + 0.05	70,440 — 0.8	364,639 + 1.3
Da. Av. Other Oils	7,473 — 3.2	3,905 — 20.4	1,954 + 17.0	1,097 + 1.2	252 — 53.8	14,681 — 7.8
GASOLINE—Gallons						
Stocks, June 14	31,290,000	73,345,000	17,104,000	6,272,000	11,049,000	139,060,000
Prod. 6-14 to 6-21	10,381,000 + 5.3	17,348,000 — 6.9	8,702,000 + 4.2	4,127,000 — 3.5	6,067,000 — 12.1	46,625,000 — 2.9
Ship. 6-14 to 6-21	10,428,000 — 3.4	16,703,000 — 3.0	8,327,000 — 6.8	1,472,000 — 76.7	5,609,000 — 17.1	42,539,000 —15.0
Stocks, June 21	31,243,000 — 0.2	73,990,000 + 0.9	17,479,000 + 2.2	8,927,000 + 42.3	11,507,000 + 4.1	143,146,000 + 2.9
Ratio Sales to Prod.	100.5%	96.3%	95.7%	35.7%	92.5%	91.2%
KEROSENE—Gallons						
Stocks, June 14	7,601,000	6,052,000	2,376,000	56,000	980,000	17,065,000
Prod. 6-14 to 6-21	2,318,000 + 23.4	2,255,000 + 3.7	1,589,000 + 7.6	None —100.0	328,000 — 63.3	6,490,000 + 0.3
Ship. 6-14 to 6-21	1,583,000 — 23.0	1,837,000 — 30.8	1,374,000 — 19.4	30,000 — 58.3	390,000 — 2.0	5,214,000 — 24.3
Stocks, June 21	8,336,000 + 9.7	6,470,000 + 6.9	2,591,000 + 9.0	26,000 — 53.6	918,000 — 6.3	18,341,000 + 7.5
Ratio Sales to Prod.	68.3%	81.5%	86.5%	.....	118.9%	80.3%
STOVE DISTILLATE—Gallons						
Stocks, June 14	1,387,000	3,923,000	410,000	73,000	58,000	5,851,000
Prod. 6-14 to 6-21	109,000 + 58.0	632,000 — 36.3	196,000 + 5.9	90,000 + 38.5	83,000 + 53.7	1,110,000 — 18.7
Ship. 6-14 to 6-21	363,000 — 27.7	506,000 +406.0	110,000 — 34.5	39,000 — 50.6	73,000 + 32.7	1,091,000 + 20.7
Stocks, June 21	1,133,000 — 18.3	4,049,000 + 3.2	496,000 + 21.0	124,000 + 69.9	68,000 + 17.2	5,870,000 + 0.3
Ratio Sales to Prod.	333.0%	80.1%	56.1%	43.3%	87.9%	98.3%
GAS OIL—Gallons						
Stocks, June 14	10,875,000	26,388,000	3,801,000	17,080,000	8,120,000	66,264,000
Prod. 6-14 to 6-21	1,723,000 — 6.3	2,445,000 + 25.4	1,280,000 + 2.2	309,000 — 29.9	2,917,000 + 15.0	8,674,000 + 8.2
Ship. 6-14 to 6-21	2,269,000 — 6.7	1,249,000 +110.3	1,202,000 + 63.1	885,000 — 14.6	2,411,000 + 40.6	8,016,000 + 23.1
Stocks, June 21	10,329,000 — 5.0	27,584,000 + 4.5	3,879,000 + 2.1	16,504,000 — 3.4	8,626,000 + 6.2	66,922,000 + 1.0
Ratio Sales to Prod.	131.7%	51.1%	93.9%	286.4%	82.7%	92.4%
FUEL OIL—Gallons						
Stocks, June 14	14,680,000	59,280,000	49,059,000	32,877,000	30,204,000	186,100,000
Prod. 6-14 to 6-21	5,836,000 + 8.4	7,612,000 — 13.4	7,991,000 + 7.9	8,505,000 + 2.2	9,146,000 — 2.6	39,090,000 — 0.5
Ship. 6-14 to 6-21	5,978,000 + 1.1	7,426,000 + 2.1	5,892,000 — 12.3	7,214,000 — 20.0	7,607,000 — 23.1	34,117,000 —12.1
Stocks, June 21	14,538,000 — 1.0	59,466,000 + 0.8	51,158,000 + 4.3	34,168,000 + 3.9	31,913,000 + 5.7	191,243,000 + 2.8
Ratio Sales to Prod.	102.4%	97.6%	73.7%	84.86%	81.7%	86.9%

Gasoline Produced by Various Methods, Week Ended June 21

	Kansas	% of Total	Oklahoma	% of Total	North & Cent. Texas	% of Total	West Texas	% of Total	Louisiana-Arkansas	% of Total	Total	% of Total
Straight Run	6,121,000	59.0	11,576,000	66.7	6,529,000	75.0	4,038,000	97.8	2,484,000	40.9	30,748,000	65.9
Cracked	4,020,000	38.7	4,878,000	28.1	1,546,000	17.7	.....	....	3,008,000	49.6	13,452,000	28.9
Natural	240,000	2.3	894,000	5.2	627,000	7.3	89,000	2.2	575,000	9.5	2,425,000	5.2
Total	10,381,000		17,348,000		8,702,000		4,127,000		6,067,000		46,625,000	

+ or — columns are % change over previous week.

Gasoline Stocks Rise When Crude Runs Are Increased

Staff Special—By Telegraph
TULSA, June 25

CRUDE oil run to stills at 93 Mid-Continent refineries in the week ended June 21 averaged 4776 barrels daily more than in the preceding week, these plants reported to NATIONAL PETROLEUM NEWS. But these runs were 19,422 barrels daily average less than in the last week of May when the 93 refineries set a high record for charges to stills.

In spite of the increased runs gasoline output was 1,400,000 gallons less than in the preceding week. Shipments slumped 7,500,000 gallons and stocks increased 4,000,000 gallons. The Kansas group of 12 plants was the only group to lower gasoline stocks. The largest gain in stocks was at the 15 West Texas refineries that report their operating statistics.

Gasoline shipments in the four weeks ended June 21 average 6,930,-

Summary for the Month

Production and shipments, all reporting refineries, for four weeks ended June 21. Change in stocks figured from May 24.

GASOLINE

	Gallons
Production	193,780,000
Shipments	194,044,000
Net change in stocks	—264,000
Ratio sales to production	100.1%

KEROSENE

	Gallons
Production	26,507,000
Shipments	25,401,000
Net change in stocks	+1,106,000
Ratio sales to production	95.8%

STOVE DISTILLATE

	Gallons
Production	—4,699,000
Shipments	3,991,000
Net change in stocks	+708,000
Ratio sales to production	84.9%

GAS OIL

	Gallons
Production	35,481,000
Shipments	30,984,000
Net change in stocks	+4,497,000
Ratio sales to production	87.3%

FUEL OIL

	Gallons
Production	158,458,000
Shipments	143,388,000
Net change in stocks	+15,070,000
Ratio sales to production	90.5%

000 gallons daily and the June 21 stocks made 21 days' supply at the average rate of shipments in the four weeks. A year ago shipments from 80 refineries averaged 6,385,000 gallons daily and stocks June 22, 1928, formed only 12 days' supply.

Kerosene output last week exceeded shipments by 1,276,000 gallons. Half the increase in stocks was at Kansas refineries. In four weeks ended July 21 kerosene shipments were 95.6 per cent as large as output. Kansas refineries June 21 held 45 per cent of the 18,341,000 gallons of stocks at the 93 refineries. Kansas stocks were 29 days' supply at the rate of shipments from Kansas refineries. In the rest of the Mid-Continent kerosene stocks were only 16 days' supply.

There was only a small increase in stocks of stove distillate last week. Oklahoma plants held about two-thirds of the distillate stocks.

Gas oil output increased 650,000 gallons.

Fuel oil stocks increased 5,000,000 gallons in the field. Only the Kansas plants lowered fuel oil stocks. In the four weeks ended June 21 15,000,000 gallons of fuel oil has been run to storage.

33 Technologists Visit Bureau of Standards

WASHINGTON, June 22.—Thirty-three representatives of 24 companies of the National Petroleum Association made the annual visit of technologists to the Bureau of Standards June 14.

Standard tests were run and new developments in oil testing were demonstrated, according to Fayette B. Dow in a recent National Petroleum Association bulletin. Representatives attending were:

Ashland Refining Co., A. R. Greene, Gerald Johnson; Canfield Oil Co., C. Koch; Cities Service Oil Co., W. W. Sherman; Conewango Refining Co., R. S. Dawson; Crew Levick Co., Ralph Cool, W. H. Hannigan, Morris Westcott; Crystal Oil Works, John W. Fawcett, Roy Toy.

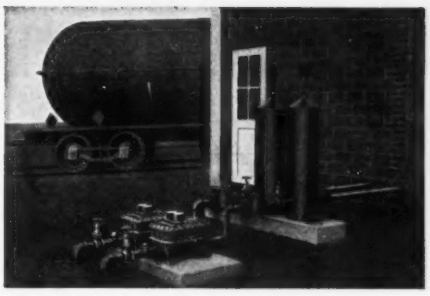
Elk Refining Co., C. J. Hesch; Emery Manufacturing Co., E. E. Bown; Emlenton Refining Co., G. J. Murphy, Frank Plankey; Empire Oil Works, W. B. Smith; Independent Refining Co., R. B. Buckham; Kendall Refining Co., C. Hulme, Frank Philippbar.

National Petroleum Association, Horace L. Lohnes; Ohio Valley Refining Co., G. R. Dye; Pennzoil Co., D. W. Grant, J. M. Hinman; Shell Petroleum Corp., L. C. Burroughs; Sinclair Oil Co., E. G. Mittlestaedt, L. G. Derbyshire; Levi Smith Refining Co., J. P. Olmstead.

Superior Oil Co., Paul F. Mathis; Tiona Refining Co., C. R. Johnson; United Refining Co., H. W. Wagner; Valvoline Oil Co., R. C. Mason; Viking Oil Corp., G. M. Lyons; Waverly Oil Works, W. T. Sieber, J. G. Dawson.

Arrangements for the trip were made by A. W. Scott, Empire Oil Works.

CLEVELAND, June 22.—Mid-Continent Petroleum Corp. is reported to have obtained an interest in the Baron-Huot Oil Co. of Kankakee, Ill. The company will handle Mid-Continent products exclusively at its 14 stations.



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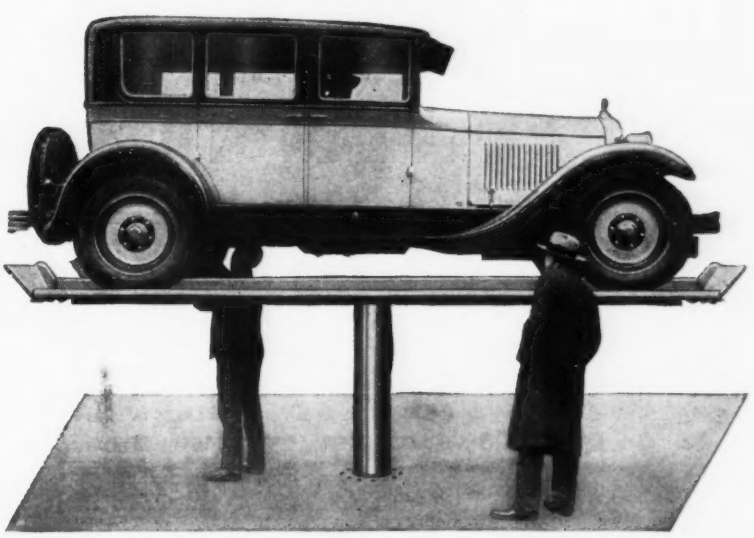

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National Petroleum News

Mid-Continent Gasoline Prices Sag As Lull in Buying Continues

Staff Special
TULSA, June 22

GASOLINE buying in virtually all areas of the Mid-Continent continued at low ebb the past week. Contract shipments were at a fairly high rate but the spot demand suffered. The latter feature was particularly noticeable in the Oklahoma market where refiners refused to meet the low prices coming from other districts.

The relatively low prices prevailing at the Gulf for foreign business kept export buyers out of the market.

Natural gasolines continued to reflect the depressed condition of the refined gasoline market and prices, particularly for the lower grades, dropped 0.25 to 0.375-cent a gallon.

There was little change apparent in other sections of Mid-Continent markets. The demand for all grades of burning oil was seasonal, although some of the higher grades of fuel oil moved at higher prices under the stimulus of demand for cracking.

Gasolines

Oklahoma refiners experienced no relief from the quiet gasoline situation which has prevailed since the first of the month. Motoring weather was exceptionally favorable throughout the middle western consuming districts, but consumption has not been sufficient to lower jobbers' stocks to the point where it was necessary for them to buy heavily in the spot market. Several inquiries for 58-60 U. S. Motor reported late in the week would indicate that jobbers are preparing to enter the market very shortly.

Refiners in north Texas were more optimistic as the time for July buying is close at hand. It was reported that 58-60 U. S. Motor gasoline could have been bought in this district for 8 cents during the early days of the past week, but it was doubtful if any large amount could have been secured at this figure.

The general price f.o.b. north Texas was around 8.50 cents with quotations ranging higher for goods shipped on a group 3 basis. Refiners expect some relief from an inquiry for 100 cars of U. S. Motor which was reported in the market. The price the buyer was offering could not be learned, and up to the close of business June 22 the inquiry had not developed any purchases.

Other districts also reported gasoline movement slow. Arkansas and Louisiana refiners continued to quote 9.50 cents for 58-60 U. S. Motor for state or differential territory haul, except for one Arkansas refiner who sold at 9.25 to 9.50 cents. Kansas sellers moved their goods about in line with Oklahoma refiners. Prices in west Texas dropped approximately 0.25-cent.

Natural Gasolines

The buying lull which hovered over refined gasolines continued to affect natural gasoline markets. Another reason for the present slowness of natural gasolines, one manufacturer pointed out, was that an unusually large volume of California goods was going to eastern markets. West Virginia sellers, who normally look to the east for their business, were cutting in on Mid-Continent territory.

Despite the slow movement of naturals, prices for all grades were fairly steady until late in the week when Grades B and BB sold at 6.75 cents, 0.25-cent under the low of last week. There were also reports that some goods had moved at still lower prices, but these reports could not be verified.

Kerosenes

Kerosene prices remained fairly steady in all districts. The majority of refiners in Kansas, Louisiana and Arkansas sold 41-43 water white at slightly higher prices. Oklahoma refiners quoted prices in line with those prevailing last week while goods sold slightly lower in north Texas.

No large buying was reported, although one fair sized inquiry was reported from north Texas. The buyer was reported to have offered slightly under 5.50 cents, but no business was placed at this figure as far as could be learned.

Fuel Oils

Very little interest was shown in fuel oil in the Oklahoma market. The large crude runs of the past few weeks have caused an excess of fuel oil. One or two refiners were reported to have been seeking buyers for their surplus stocks at greatly reduced prices.

More attention was being paid to the sulfur content of fuel oil than for some time past. A number of sellers were asking as much as 5 cents premium for low sulfur goods.

Not much change was apparent in other districts, although one north Texas refiner reported selling some 24-26 fuel oil to a broker at $0.75 per barrel which was the top price most refiners were asking the trade for this grade.

Gas Oils

Gas oils were in little demand throughout the week. Odd cars continued to be bought for cracking purposes with a few scattered sales reported made to industrial users.

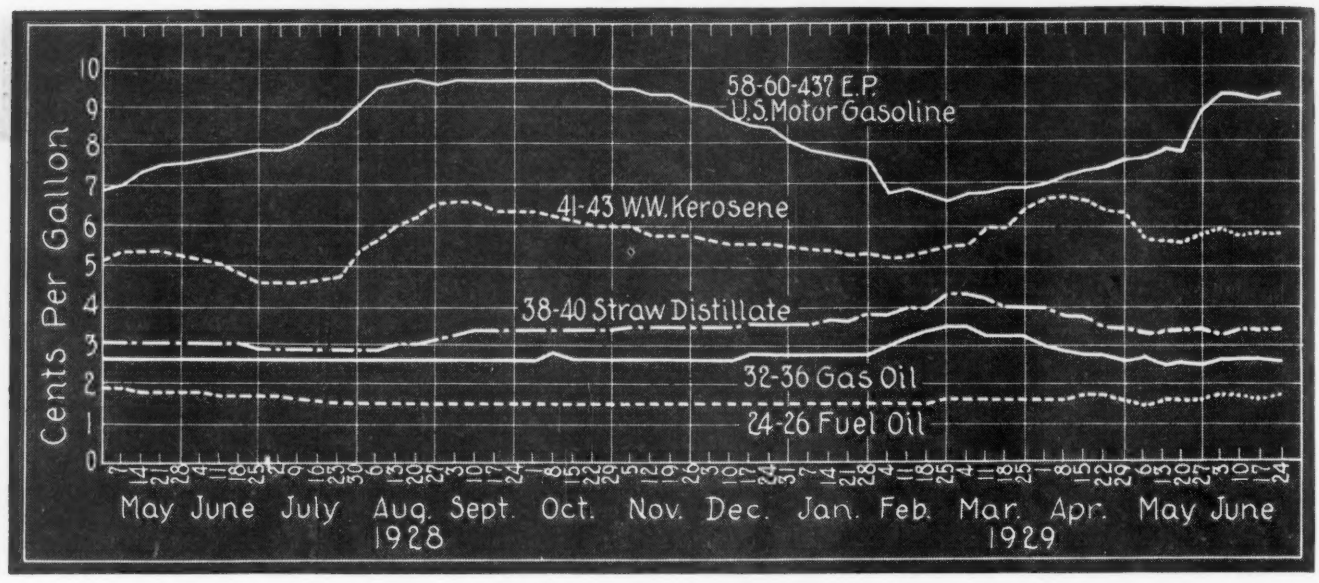
Prices for west Texas goods were slightly higher, but prices were generally unchanged in other Mid-Continent districts.

Neutral Oils and Wax

Aside from some minor price changes, neutral oils and cylinder stocks were generally the same as last week.

Wax was in little demand. Buyers were bidding slightly under 2.50 cents for white crude scale, but the bulk of the few sales reported were made at this figure.

Current Prices of Principal Mid-Continent Refined Products


Cents Per Gallon
58-60-437 E.P. U.S. Motor Gasoline
41-43 W.W. Kerosene
38-40 Straw Distillate
32-36 Gas Oil
24-26 Fuel Oil
May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

Prices shown are on Group 3 basis and extended to date shown in Refinery Market Tables Section of this issue

Oklahoma Gasoline Tax Increased

TULSA, June 24.—The state gasoline tax in Oklahoma was increased from 3 to 4 cents per gallon on June 22. A bill levying the additional cent per gallon was passed by the senate June 20 with the emergency clause. It was signed June 22, becoming effective immediately.

Under terms of the new law 1 cent per gallon goes to various counties on the basis of population and area of the county. Three cents is retained by the state for state highway construction.

Oklahoma gasoline distributors advanced their prices generally 1 cent June 24 to cover the tax.

Prices A Year Ago

Prices of principal refined products, Chicago tank wagon and crude, a year ago (June 25, 1928), were:

Oklahoma: 58-60 U. S. Motor, 7.9304c; Grade A natural, 6.50-6.625c; 41-43 kerosene, 4.625-4.75c; 24-26 fuel oil, $0.70-$0.75 per barrel.

Pennsylvania: 58-60 U. S. Motor, 10.50-11.00c; 47 w.w. kerosene, 7.125-7.50c; 36-40 fuel oil, 5.00-5.25c.

Tank wagon: Chicago 14c.

Crude: Mid-Continent 35-35.9 gravity, $1.25; Pennsylvania, $2.90.

Correction

Prices of Grade C natural gasoline in Oklahoma and North Texas as of May 27 in the refinery market table on page 106 of the May 29 issue of NATIONAL PETROLEUM NEWS, and in subsequent issues showing prices of May 27, were incorrectly published at 7 to 7.25 cents. Correct price in both districts should have been 7.25 cents flat on May 27, in the May 29, June 5 and June 12 issues.

Through typographical error, price of California 38-40 kerosene as of June 17 on page 130 of the June 19 issue of NATIONAL PETROLEUM NEWS, was shown as 5.50 to 5.60 cents. Correct price on June 17 was 5.50 to 6.50 cents.

Gulf Coast Lubes Firming

HOUSTON, June 24.—Firmer conditions and better demand have brought further readjustments in Gulf Coastal lubricant quotations. List prices are generally 0.25 cent higher than a week ago. Manufacturers are looking forward to continued increased demand based on summer motoring conditions.

Wayside to Control New Michigan Refinery

CHICAGO, June 22.—The Wayside Oil Corp. of Detroit, Mich. announces the purchase of the bulk plant and stations of the Savin Oil Co., Detroit, and the purchase of the controlling interest in the Michigan Central Refining Co. The refinery is now under construction at Muskegon, Mich. and is expected to be in operation about Aug. 1, 1929.

Ed Lyon, formerly of the Wayco Oil Co., Detroit is the president of the Wayside company and J. D. Wrather of Amarillo, Texas, will be manager of the Michigan Central refinery.

The Northland Oil Co., Chicago will market the output of the refinery and has also closed some contracts for Muskegon crude. C. L. Maguire, president of Northland, is actively interested in both the Wayside Corp. and the Michigan Central refinery.

Smith Buys Two Jobbers

CLEVELAND, June 22.—The Smith Oil & Refining Co. has purchased properties of the Hayden Oil Co. of Polo, Ill. and those of the Wessels & Rademaker Oil Co. of German Valley in the same district.

The Hayden company was organized in 1924. It has operated stations at Polo, Dixon, Milledgeville, Sterling, Franklin Grove and Rochelle. The Wessels company was organized in 1926 and did business in German Valley only.

Prices 10 Years Ago

Prices of principal refined products, Chicago tank wagon and crude 10 years ago (June 23, 1919), were:

Oklahoma: 58-60 U. S. Motor, 18.50c; 80-84 Natural gasoline, 24c; 41-43 w.w. kerosene, 8.75-9c; 24-26 fuel oil, $0.80 per barrel.

Pennsylvania: 58-60 U. S. Motor, 20.50-20.75c; 47 w.w. kerosene, 10.50-11.00c; 38-40 fuel oil, 4.25-4.75c.

Tank wagon: Chicago, 20.50c.

Crude: Mid-Continent, 35-35.9 gravity, $2.25; Pennsylvania, $4.

Chicago Resale Market

Distress Gasoline Forces Market Down

Staff Special
CHICAGO, June 22

IN THE face of continued slack gasoline demand the past week, Chicago appeared to be the dumping ground for distress gasolines from practically all refining areas. Sales of U. S. Motor were reported a full cent under the prevailing spot price of the major Oklahoma, Kansas and North Louisiana-Arkansas refiners. However, in spite of the abundance of low priced goods available for immediate shipment, nearly all of the Chicago trade expressed themselves as optimistic regarding higher prices for the future.

The weather over the past week was normal, or above, most of the time and although there were some heavy rainfalls they did not hinder motoring to any considerable extent. Jobbers were slowly getting their gasoline storage lowered and the effect was beginning to be felt on the spot market as the week ended. The spot demand for U. S. Motor was better in practically all quarters on June 21 and 22 than had been the case the forepart of the week.

Rumors were current most of the week that one or two of the large southwestern refiners were in the market for large quantities of U. S. Motor gasoline but up to closing time June 22 no purchases had been made.

The major Oklahoma refiners continued to quote U. S. Motor gasoline, for spot shipment, at 9.25 cents and although their sales were low they did enough business to keep this figure a factor in the market price range. Other Oklahoma refiners were offering goods at 9 cents on June 21 and a few carlot marketers offered some Oklahoma stuff at 8.50 and 8.75 cents. In some cases the marketers were offering to move Motor at 8.50 or 8.75 cents that they had purchased for shipment over June at 9 cents.

However, most carlot marketers reported they were not offering goods under 8.50 cents and the bulk of sales of U. S. Motor gasoline, irrespective of origin, in the week ended June 22 was at 8.50 to 9.25 cents.

Some inquiries were in the market for gasolines for July delivery but not many deals were reported closed. Refiners were generally of the opinion that the market soon would stage a comeback and refused to sell at prevailing spot prices. Most of the marketers were uncertain what the market would do and were loath to go "long" any great amount of goods. One marketer reported an offer of 8.25 cents for delivery over the first half of July.

The higher gravity gasolines continued in their off-season dullness and were generally 0.25 cent lower. The 60-62, 437 e.p. opened June 17 at 9 to 9.375 cents and moved thereafter at 8.75 to 9.375 cents. Sales of 60-62, 400 e.p. were mostly at 9.25 to 9.50 cents until June 22 and then goods moved at 9 to 9.50 cents. The 64-66, 375 e.p. grade continued to move mostly at 9.50 to 9.75 cents.

Kerosene buying continued spotty. Several sellers reported a fairly consistent demand but the majority of the trade said business was dull. However, there was no decided drop in the market and the general opinion was that kerosene would remain pegged around present price levels.

The 41-43 w.w. kerosene moved mostly at 5.75 to 6 cents over the first half of the week and at 5.625 to 5.875 cents the latter half. A few sales were reported at 5.50 and 6 cents on June 22.

Activity in the heavy oil markets was confined mostly to industrial buying. Most sellers said their demand was normal or slightly above for this season but that it was nearly all on previously made contracts. The spot demand was light.

Several refiners have been active in contracting their furnace oils for next winter and two or three of them said they had practically their entire output disposed of. These contracts were mostly on a basis of the spot market date of shipment, with minimum and maximum price provided.

Distillate prices were generally unchanged with the 38-40 straw moving mostly at 3.25 to 3.50 cents. There was little change in fuel oil prices. The 28-30 zero grade sold at $0.875 to $0.95 with the ordinary 28-30 at $0.85 to $0.90. Sales of 24-26 fuel were mostly at $0.675 to $0.725. Low sulfur 18-22 fuel continued to move at $0.55 to $0.60, while the high sulfur goods moved mostly at $0.50.

Gas oil prices were generally unchanged over those shown in the NATIONAL PETROLEUM NEWS of June 19, 1929.

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Modern Automobile Engines demand an oil which flows freely, gives instant lubrication and will not break down under intense heat and continued high speed.

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Karns City,
Penna.

Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

Comparative Prices of 58-60 U. S. Motor Gasoline, 437 E. P., Group 3 and Point of Origin, to Jobbers Only

In Effect June 24

	Price F.O.B. Group 3	*Price F.O.B. Point of Origin*	*If for Particular Destination*
Oklahoma	9.1859 (Wt. Avg.)	9.1859 (Wt. Avg.)	
Kansas	8.75-9.25		S. O. Neb. & Ind. Ter., etc.
Kansas		9.4844 (Wt. Avg.)	Kansas only.
North Texas	8.375-9.00	8.50-8.75	
West Texas	8.25-9.00	8.50-8.625	
Louisiana-Ark.	8.75-9.25		Mich., Ohio & Indiana.
Louisiana-Ark.		9.25-9.50	State or differential haul.
Indiana-Illinois	9.25	**	S. O. Ind. territory except Detroit and vicinity. For Ohio on delivered basis only.

*Shipments made from E. Chicago, Ind., and Wood River, Ill., according to conditions and freight rates; no prices F.O.B. point of origin can be given.

Weighted Average Prices

OKLAHOMA

	June 24		June 17		June 10	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	78	9.1859	56	9.2366	56	9.2366
60-62 437 e. p. gasoline	3	9.4167	2	9.4375	4	9.3125
60-62 400 e. p. gasoline	1	9.5000	1	9.5000	1	9.5000
64-66 375 e. p. gasoline	No sales reported		No sales reported		3	9.8333

The weighted average prices shown above reflect the steadiness of the Oklahoma refinery market despite the fact that shipments were slow and competition was stronger from outside areas last week.

Reporting refiners moved the bulk of their 58-60 U. S. Motor at a price range of 9 to 9.25 cents with a majority of them selling at the higher figure. Non-reporting refiners for the most part were in line on prices with the reporting refiners.

KANSAS

	June 24		June 17		June 10	
	No. of cars	Price	No. of cars	Price	No. of cars	Price
58-60 U. S. Motor, 437 e. p.	16	9.4844	22	9.4943	13	9.5000

Gasoline demand was reported fair within the state and refiners made only occasional deviations from their price lists. The weighted average above reflects the going market for spot gasolines within the state, the usual differential over Group 3 being maintained.

GASOLINE AND NAPHTHA

OKLAHOMA	Prices June 24	Prices June 17	Prices June 10
48-50 450 e.p. naphtha	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
50-52 450 e.p. naphtha	8.75 – 9.00	8.75 – 9.00	8.75 – 9.00
56-58 450 e.p. gasoline	8.75	8.75 – 8.875	8.75 – 9.00
58-60 450 e.p. gasoline	8.875	8.875– 9.00	8.875– 9.00
64-66 390 e.p. gasoline	9.625	9.625– 9.875	9.75 – 9.875
68-70 350-360 e.p. gasoline	9.875–10.00	9.875–10.00	9.875–10.00

†Prices nominal ††Only one refiner quoting *Quotations only

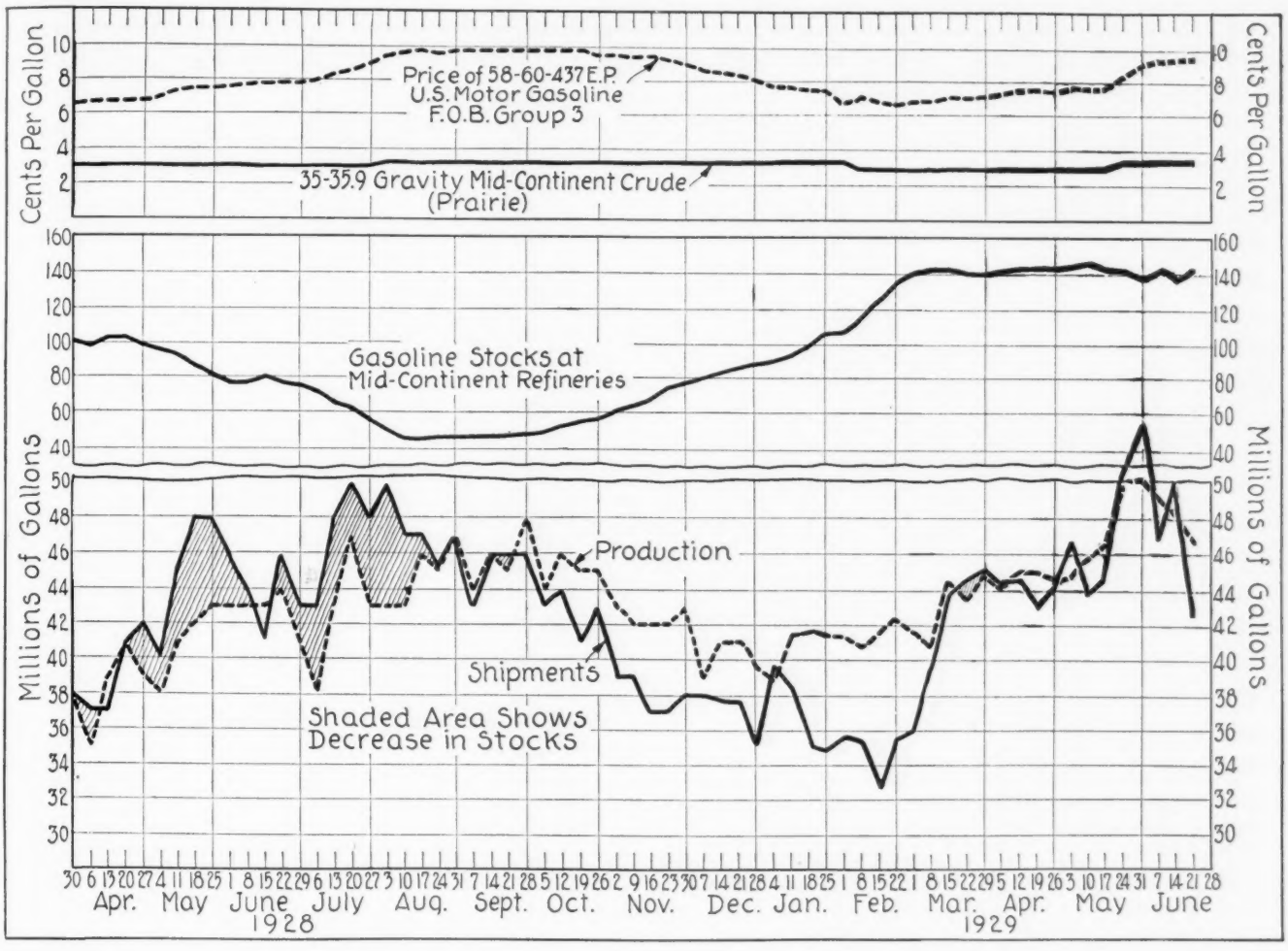
PENNSYLVANIA	Prices June 24	Prices June 17	Prices June 10
52-54 Naphtha	9.50 –10.00	9.50 –10.00	9.50 –10.00
54-56 Naphtha	9.50 –10.25	9.50 –10.25	9.75 –10.00
58-60 U.S. Motor 437 e.p.	10.25 –10.75	10.25 –10.50	10.25 –11.00
60-62 400-410 e.p. gasoline	10.50 –11.00	10.50 –11.00	10.50 –11.25
64-66 390 e.p. gasoline	10.75 –11.50	10.75 –11.50	11.00 –11.50
68-70 Str-run gas 350-360 e.p.	11.50 –12.50	11.50 –12.50	11.50 –12.50

(*Continued on Page 122*)

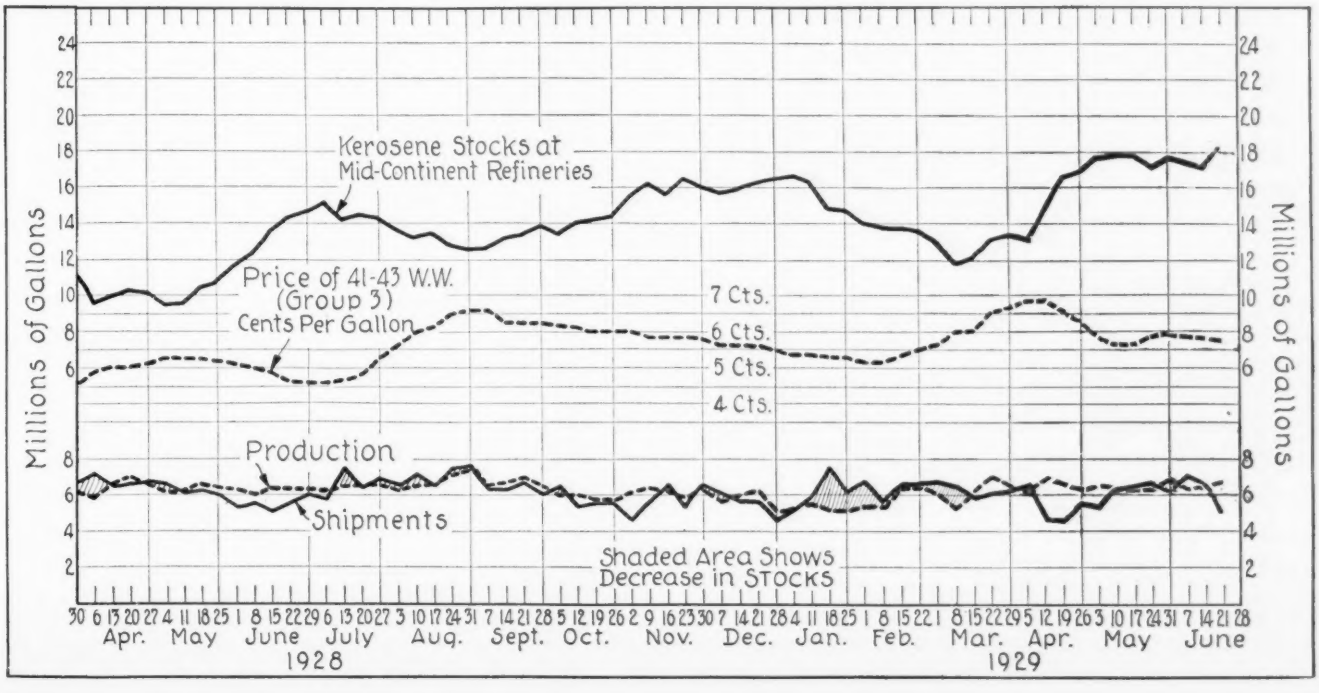
**Represents Both Sales and Quotations.

Barometer of Mid-Continent Refinery Market—Week Ending June 21

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Cents Per Gallon
Price of 58-60-437 E.P. U.S. Motor Gasoline F.O.B. Group 3
35-35.9 Gravity Mid-Continent Crude (Prairie)
Millions of Gallons
Gasoline Stocks at Mid-Continent Refineries
Production
Shipments
Shaded Area Shows Decrease in Stocks
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

Prices shown above are extended to date shown in Refinery Market and Crude tables in Market section of this issue and stocks, shipments and Production are extended to date as shown in the table on page 114.



Refinery Markets on Light Oils and Lubricants

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(These Refinery Prices compiled in the OIL PRICE HANDBOOK for a whole year)

OHIO (Quotations of S. O. Ohio. 4c state tax to be added.)

U. S. Motor Gasoline	Prices June 24	Prices June 17	Prices June 10
Ohio, delivery at any point	12.00	12.00	12.00

KANSAS (F. O. B. refinery Kansas destination)

60-62 400 e.p. gasoline	9.75 –10.25	10.00 –10.25	9.625– 9.75
64-66 375 e.p. gasoline	10.00 –10.375	10.00 –10.375	9.75 –10.00

NORTH TEXAS

48-52 450 e.p. naphtha	8.375– 8.50	8.50 – 8.625	8.50 – 8.625
56-58 450 e.p. gasoline	8.375– 8.50	8.50 – 8.625	8.50 – 8.625
58-60 450 e.p. gasoline	8.375– 8.50	8.50 – 8.625	8.50 – 8.625
58-60 U.S. Motor 437 e.p.	8.50 – 8.75	8.50 – 8.75	8.75 – 9.00
60-62 400 e.p. gasoline	9.25 – 9.375	9.25 – 9.375	9.25 – 9.50
64-66 390 e.p. gasoline	9.50	9.50	9.50
64-66 375 e.p. gasoline	9.50 – 9.625	9.50 – 9.625	9.625– 9.75
68-70 350-360 e.p. gasoline	9.625– 9.75	9.625– 9.75	9.625– 9.75

****WEST TEXAS (F.o.b.West Texas refinery, for unrestricted shipment)**

50-52 naphtha	8.00	8.25 – 8.50	8.50 – 8.75
56-58 437 e.p. gasoline	8.50	8.75	8.75
58-60 437 e.p. gasoline	8.50 – 8.625	8.75 – 9.00	8.75 – 9.00

NORTH LOUISIANA (N. La., Ark., and Miss. destination)

58-60 U.S. Motor, 437 e.p	9.50	9.50	9.50

ARKANSAS (Ark., N. La. and Miss. destination)

58-60 U.S. Motor 437 e.p.	9.25 – 9.50	9.50	9.50
61-63 390 e.p. gasoline	9.625	9.625	††9.625

CALIFORNIA (3c tax to be added to California gasoline prices if used in state.)

54-58 U.S. Motor 437 e.p.	8.00 –10.50	8.00 –10.00	8.00 –10.50
58-61 375-400 e.p. gasoline	9.00 –11.00	9.00 –10.50	9.00 –11.50
42-45 Eng. dis. 445-480 e.p.	7.00 – 8.50	7.00 – 8.50	7.00 – 8.50

BURNING OILS

PENNSYLVANIA

	Prices June 24	Prices June 17	Prices June 10
45 w.w. kerosene	6.625– 6.875	6.625– 7.00	6.75 – 7.25
46 w.w. kerosene	6.875– 7.25	6.875– 7.25	7.00 – 7.75
47 w.w. kerosene	7.25 – 7.50	7.25 – 7.75	7.625– 8.00
300 mineral seal	7.50 – 7.75	7.50 – 7.75	7.50 – 7.75

OKLAHOMA

41-43 w.w. kerosene	5.75 – 6.00	5.75 – 6.00	5.75 – 6.00
42-44 w.w. kerosene	6.25 – 6.50	6.25 – 6.50	6.25 – 6.50

KANSAS (F. O. B. refinery Kansas destination)

41-43 w.w. kerosene	6.25 – 6.50	6.125– 6.375	6.00 – 6.25
42-44 w.w. kerosene	6.625– 6.75	6.625– 6.75	6.50 – 6.75

NORTH TEXAS

40-42 w.w. kerosene	5.375	5.375	5.375
41-43 w.w. kerosene	5.50	5.50 – 5.75	5.50 – 5.75

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

41-43 w.w. kerosene	6.25 – 6.50	6.00 – 6.50	6.50 – 6.75

ARKANSAS (Ark., N. La. and Miss. destination)

41-43 kerosene	6.25 – 6.50	6.00 – 6.50	.....
42-44 kerosene	6.75	6.75	6.75

CALIFORNIA

38-40 w.w. kerosene	5.50 – 6.50	5.50 – 5.60	5.25 – 6.50

NATURAL GASOLINE

(Note: End point of all grades, not over 375 F. Corrosion test adopted Oct. 1, 1927; A.S.T.M. Method D130-27T; doctor test, July 2, 1928.)

OKLAHOMA

Grade AA, 80-87.9, 90% Recovery	7.375– 7.50	7.50	7.50
Grade A, 72-79.9, 90% Recovery	7.375– 7.50	7.50	7.50 – 7.75
Grade BB, 84-92, 85% Recovery	6.625– 6.75	7.00 – 7.25	7.125– 7.25
Grade B, 76-83.9, 85% Recovery	6.625– 6.75	7.00 – 7.25	7.125– 7.25
Grade C, 80-90, 78% Recovery	6.625– 6.75	7.00 – 7.25	7.125– 7.25

NORTH TEXAS (F. O. B. Breckenridge)

Grade AA, 80-87.9, 90% Recovery	7.375– 7.50	7.50	7.50
Grade A, 72-79.9, 90% Recovery	7.375– 7.50	7.50	7.50 – 7.75
Grade BB, 84-92, 85% Recovery	6.625– 6.75	7.00 – 7.25	7.125– 7.25
Grade B, 76-83.9, 85% Recovery	6.625– 6.75	7.00 – 7.25	7.125– 7.25
Grade C, 80-90, 78% Recovery	6.625– 6.75	7.00 – 7.25	7.125– 7.25

NORTH LOUISIANA (F. O. B. Monroe District)

Grade AA	†7.75	†8.00	†8.00
Grade BB	†7.00	†7.375	†7.50
Grade C	†7.00	†7.375	†7.375

CALIFORNIA

75-85, 375-390 e.p. blend	9.00 – 9.50	9.00 – 9.50	8.50 – 9.50

NEUTRAL OIL

PENNSYLVANIA

Vis.	(Viscosity at 70°F.)		
200 No. 3 Assoc. Filt.	28.50 –29.50	28.50 –29.50	29.00 –29.50
180 No. 3 Assoc. Filt.	25.00 –27.00	25.00 –27.00	25.00 –27.00
150 No. 3 Assoc. Filt.	21.00 –21.50	21.00 –22.00	21.00 –22.00
(Non Viscous)			
34 Grav. 330-340 Flash	7.50 – 8.00	7.50 – 8.00	7.50 – 8.00

****OKLAHOMA**

Vis. Color	(Viscosity at 100°F.)		
100—No. 2	6.00 – 7.00	6.00 – 7.00	6.00 – 7.00
150—No. 3	7.50 – 8.25	7.50 – 8.25	7.50 – 8.50
150—No. 4	6.75 – 7.50	6.75 – 7.50	6.75 – 7.50
180—No. 3	9.00 – 9.50	9.00 – 9.50	9.00 – 9.50
180—No. 4	8.75 – 9.25	8.75 – 9.25	8.75 – 9.25
180—No. 5	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
200—No. 3	9.50 –11.00	9.50 –11.00	9.50 –11.00
200—No. 4	9.00 –10.25	9.00 –10.25	9.00 –10.25
200—No. 5	8.75 – 9.50	8.75 – 9.50	8.75 – 9.50
220—No. 3	12.50 –13.50	12.50 –13.50	12.50 –13.50
220—No. 4	12.25 –12.50	12.25 –12.50	12.25 –12.50
220—No. 5	11.50 –12.00	11.50 –12.00	11.50 –12.00
240—No. 3	13.00 –13.50	13.00 –13.50	13.00 –13.50
240—No. 4	12.00 –13.00	12.00 –13.00	12.00 –13.00
240—No. 5	11.00 –13.00	11.00 –13.00	11.00 –13.00
280—No. 3	14.00 –16.00	14.00 –16.00	14.00 –16.00
280—No. 4	13.00 –15.00	13.00 –15.00	13.00 –15.00
280—No. 5	12.00 –14.00	12.00 –14.00	12.00 –14.00
300—No. 5-6	16.00 –17.00	16.00 –17.00	16.00 –17.00

†Prices nominal ††Only one refiner quoting *Quotations only **Represents both sales and quotations.

Refinery Markets Wax, Lubricants, Heavy Oil

Prices given below are in cents per gallon, F. O. B. refinery except where $ is shown

(For quick reference to Refinery Prices, get the OIL PRICE HANDBOOK, published annually)

GULF COASTAL

Vis.	Color	Prices June 24	Prices June 17	Prices June 10
		(Viscosity at 100°F., pour test 0)		
100	No. 2 Pale	6.75 – 7.25	6.50 – 7.00	6.50 – 7.00
200	No. 3 Pale	9.25 – 9.75	9.00 – 9.50	9.00 – 9.50
300	No. 3 Pale	10.50 –11.00	10.25 –10.75	10.00 –10.50
500	No. 3½ Pale	12.00 –12.50	12.00 –12.50	12.00 –12.50
750	No. 4 Pale	13.25 –13.75	13.25 –13.75	13.00 –13.50
200	No. 5½ Red Oil	8.50 – 9.00	8.25 – 8.75	8.00 – 8.50
300	No. 5½ Red Oil	9.75 –10.25	9.50 –10.00	9.00 – 9.50
500	No. 6 Red Oil	11.00 –11.50	11.00 –11.50	10.00 –10.50
750	No. 6 Red Oil	12.00 –12.50	12.00 –12.50	12.00 –12.50

CALIFORNIA

Vis.	Color			
		(Viscosity at 100°F.)		
100	No. 3	9.50 –10.00	9.50 –10.00	9.50 –10.00
200	No. 3	11.50	11.50	11.50
300	No. 3	13.00	13.00	13.00
450	No. 3	15.50	15.50	15.50
550	No. 3	16.50	16.50	16.50
600	No. 3	17.00	17.00	17.00
200	No. 5	11.00	11.00	11.00
300	No. 5	12.00	12.00	12.00
400	No. 5	14.00	14.00	14.00
500	No. 5	15.00	15.00	15.00
600	No. 5	16.00	16.00	16.00
700	No. 7	18.00	18.00	18.00

CYLINDER STOCKS

**OKLAHOMA

190-200D Vis. at 210° Brt. St.	37.00 –40.00	37.00 –40.00	37.00 –40.00
150-160D Vis. at 210° Brt. St.	35.00 –37.00	35.00 –37.00	35.00 –37.00
150-160E Vis. 210° Brt. St.	29.00 –33.00	29.00 –33.00	29.00 –33.00
600 St. Ref. Olive Green	15.00 –20.00	15.00 –20.00	15.00 –20.00
600 St. Ref. Dark Green	13.50 –16.00	13.50 –16.00	14.00 –16.00
Black Oil	5.00	5.00	5.00

PENNSYLVANIA (A. S. T. M. Tests)

600 Steam Refined, filterable	30.00 –32.00	31.00 –33.50	32.00 –34.00
650 Steam Refined	37.50 –39.00	38.50 –39.00	39.00 –41.00
600 Flash	41.00 –43.00	42.00 –43.00	42.00 –44.00
625 Flash	44.00 –45.00	45.00	45.00 –47.00
600 Warren E	36.50 –37.00	36.50 –37.00	37.00 –37.50
600 Oil City E	35.50 –36.00	35.50 –36.00	36.00 –36.50
600 D Filtered	40.00 –41.00	40.00 –41.00	40.00 –41.00
Cold Test Stock, 40-50p. p., 140-150 vis. at 210° 540-550 flash, No. 8 color	53.00 –55.00	53.00 –55.00	54.00 –56.00
40-50 p.p., 140-150 vis. at 210°, 540-550 flash, No. 6-6½ color diluted	51.00 –52.00	51.00 –52.00	52.00 –53.00

WAX

PENNSYLVANIA Per pound, New York

122-124 white crude scale, a. m. p.	2.75 – 2.875	2.75 – 2.875	2.875– 3.00
124-126 white crude scale, a. m. p.	2.75 – 3.00	2.75 – 3.00	3.00

OKLAHOMA

**124-126 White Crude Scale, a. m. p.	2.50	2.50 – 2.625	2.50 – 2.75

CALIFORNIA

White crude scale, per pound, ton lots, a. m. p.	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50

†Prices Nominal ††Only One Refiner Quoting *Quotations only **Represents both sales and quotations

FUEL OIL

PENNSYLVANIA (For outside Pittsburgh district)

	Prices June 24	Prices June 17	Prices June 10
36-40 fuel oil	4.75 – 5.00	4.75 – 5.375	4.875– 5.375
30-34 fuel oil	4.50 – 4.625	4.50 – 4.625	4.50 – 4.75
28-32 fuel oil	4.50 – 4.625	4.50 – 4.625	4.50 – 4.75

OKLAHOMA

38-40 straw distillate	†3.25 – 3.50	†3.25 – 3.50	†3.25 – 3.50
36-38 straw distillate	†3.125– 3.25	†3.125– 3.25	†3.125– 3.25
32-36 straw gas oil	2.50 – 2.625	2.50 – 2.75	2.50 – 2.75
32-36 dark gas oil	2.375– 2.50	2.375– 2.50	2.50
32-36 straw zero gas oil	2.625– 2.75	2.625– 2.75	2.625– 2.75
28-30 zero fuel oil	$0.90 – 0.95	$0.90 – 0.95	$0.875– 0.95
28-30 fuel oil (in bbls.)	$0.875– 0.95	$0.875– 0.95	$0.875– 0.925
26-28 fuel oil (in bbls.)	$0.75 – 0.775	$0.70 – 0.80	$0.675– 0.75
24-26 fuel oil (in bbls.)	$0.675– 0.75	$0.675– 0.75	$0.675– 0.75
22-26 fuel oil (in bbls.)	$0.60 – 0.625	$0.60 – 0.625	$0.55 – 0.625
18-22 fuel oil (in bbls.)	$0.50 – 0.55	$0.50 – 0.575	$0.55 – 0.575
16-18 fuel oil (in bbls.)	$0.45 – 0.50	$0.45 – 0.55	$0.50 – 0.55
14-16 fuel oil (in bbls.)	$0.45 – 0.50	$0.45 – 0.50	$0.45 – 0.50

KANSAS (F. O. B. refinery Kansas destination)

38-40 straw distillate	3.375– 3.50	3.375– 3.50	3.50
36-38 straw distillate	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
32-36 gas oil	2.50 – 2.75	2.50 – 2.75	2.375– 2.50
24-26 fuel oil	$0.70 – 0.75	$0.70 – 0.75	$0.70 – 0.75
18-22 fuel oil	$0.625– 0.70	$0.625– 0.70	$0.625– 0.70
10-14 fuel oil	$0.50 – 0.575	$0.525–$0.575	$0.525– 0.55

NORTH TEXAS

38-40 straw distillate	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
32-36 gas oil, cracked	2.25 – 2.375	2.25 – 2.375	2.25 – 2.375
32-36 St. reduced gas oil	2.375– 2.50	$2.375– 2.50	2.25 – 2.50
24-26 fuel oil (in bbls.)	$0.625– 0.70	$0.625– 0.70	$0.60 – 0.70
20-24 fuel oil	$0.625– 0.70	$0.625– 0.70	$0.60 – 0.70

**WEST TEXAS (F.o.b. West Texas refinery, for unrestricted shipment)

34-38 gas oil	2.375– 2.50	2.375– 2.50	2.375– 2.50
30-32 gas oil	2.125– 2.25	2.125– 2.25	2.125– 2.25
18-22 fuel oil	$0.375– 0.45	$0.375– 0.45	$0.375–$0.425

NORTH LOUISIANA (N. La., Ark. and Miss. destination)

32-36 gas oil, dark	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
32-36 gas oil, straw	2.75 – 3.00	2.75 – 3.00	2.75 – 3.00
14-16 fuel oil (in bbls.)	$0.75 – 0.80	$0.75 – 0.80	$0.80

ARKANSAS (Ark., N. La. and Miss. destination)

32-36 gas oil, straw	3.00	3.00 – 3.25	3.00 – 3.125
32-36 gas oil	3.00	3.00 – 3.25	3.00 – 3.125
28-30 gas oil	2.75	2.75	2.75
14-16 fuel oil	$0.75 – 0.80	$0.75 – 0.80	.....

CALIFORNIA (F. O. B. San Joaquin Valley. At. San Francisco, 4c per bbl. more)

14-18 fuel oil (per bbl.)	$0.55 –$0.65	$0.55 –$0.65	$0.55 –$0.65
14-18 Bunker oil (per bbl.)	$0.65 –$0.75	$0.65 –$0.75	$0.65 –$0.75
30-34 gas oil (per bbl.)	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
27 Plus Diesel oil (per bbl.)	$0.90 –$1.00	$0.90 –$1.00	$0.90 –$1.00

PETROLATUMS

PENNSYLVANIA (In barrels, carload lots, f. o. b. refinery. In tank cars ½c to ¾c per pound less.) Two refiners quoting.

Snow White	8.25 – 8.50	8.25 – 8.50	8.25 – 8.50
Lily White	7.25 – 7.625	7.25 – 7.625	7.25 – 7.625
Cream White	6.25 – 6.625	6.25 – 6.625	6.25 – 6.625
Light Amber	3.50 – 3.625	3.50 – 3.625	3.50 – 3.625
Amber	3.25 – 3.375	3.25 – 3.375	3.25 – 3.375
Red	3.00 – 3.125	3.00 – 3.125	3.00 – 3.125

PETROLEUM COKE

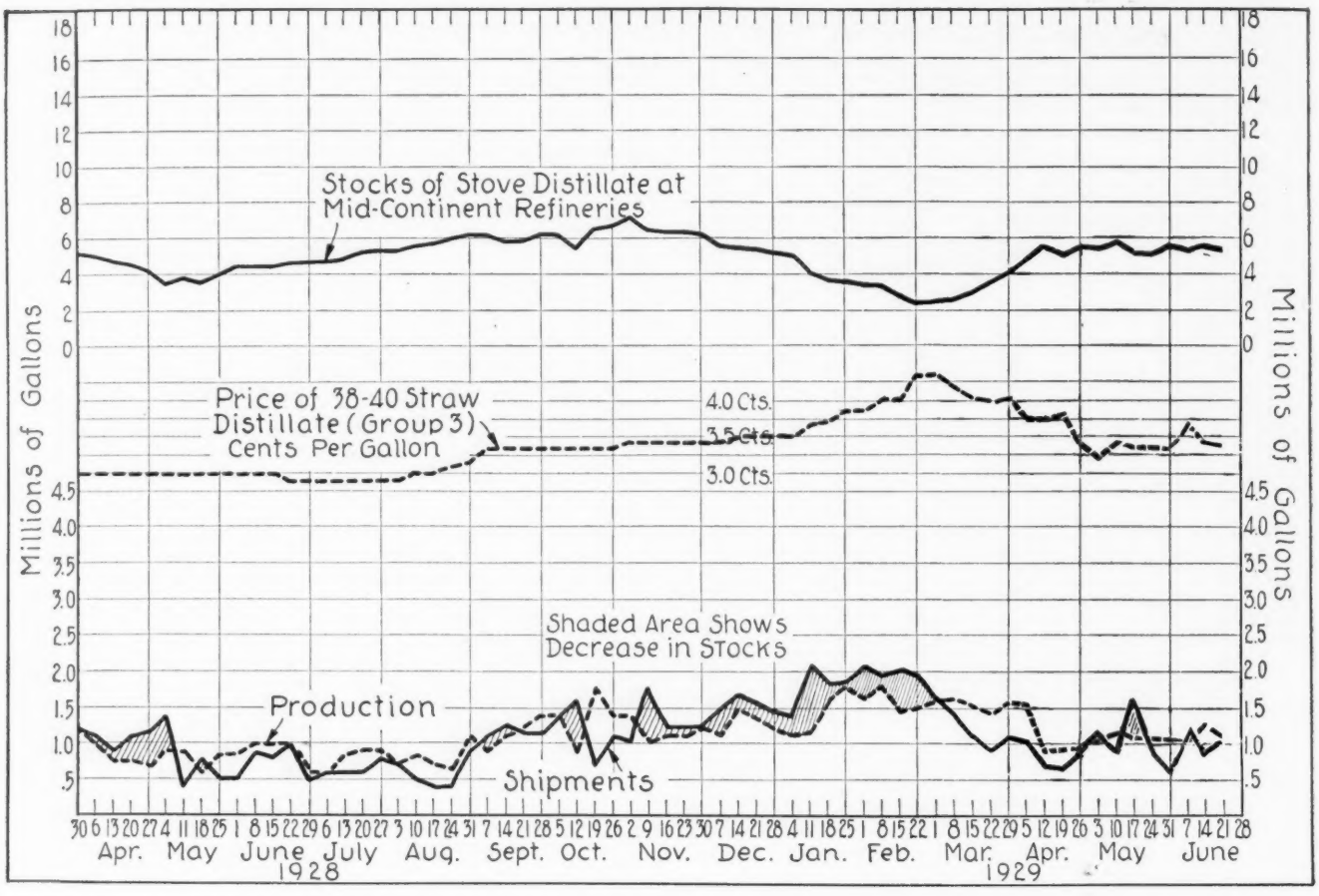
**OKLAHOMA

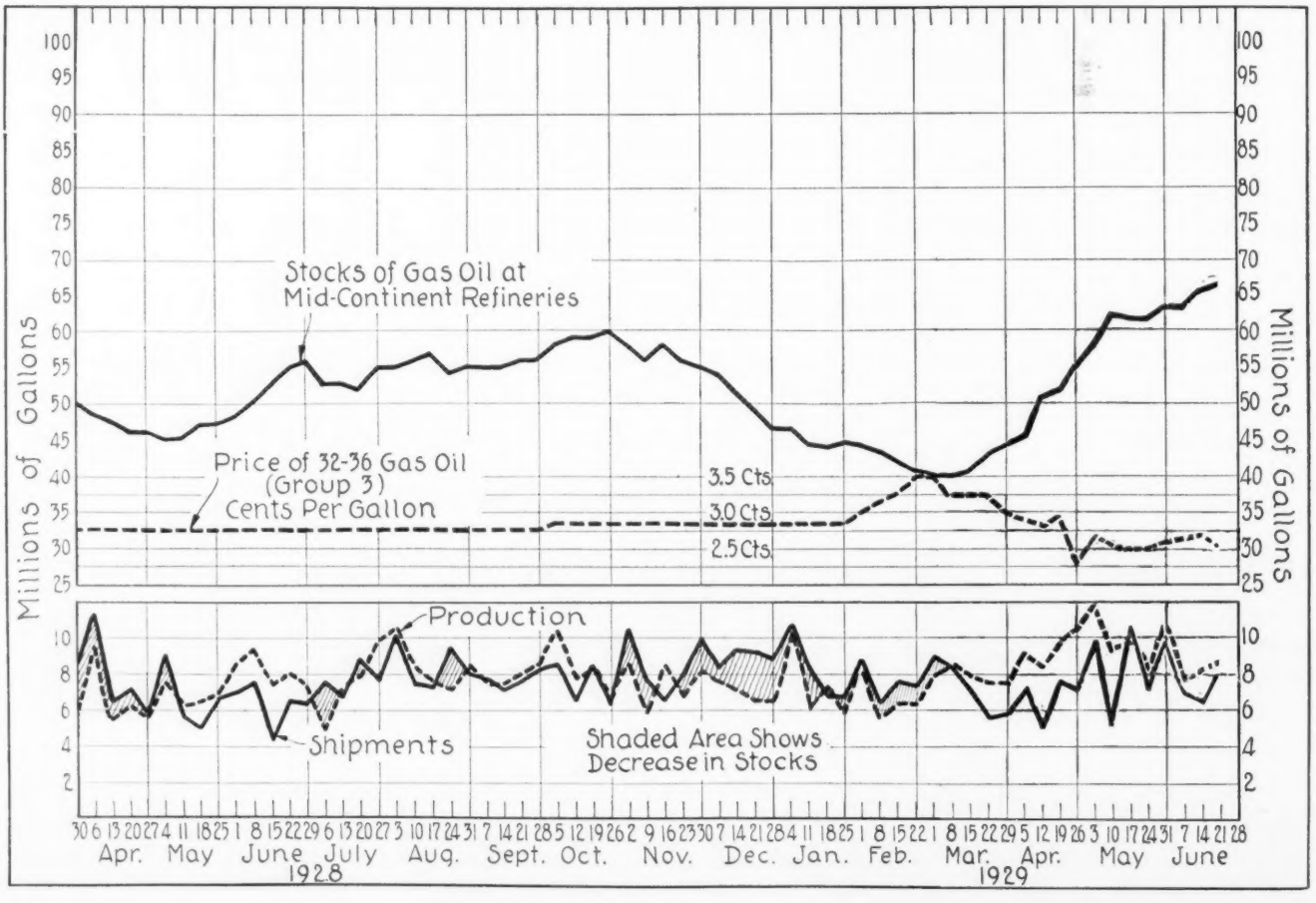
(Per ton in car lots)

Lump	$4.50 – 5.00	$4.50 – 5.00	$4.50 – 5.00
Still run	$3.00	$3.00	$3.00
Breeze	$2.00	$2.00	$2.00

Barometer of Mid-Continent Refinery Market—Week Ending June 21

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Stocks of Stove Distillate at Mid-Continent Refineries
Price of 38-40 Straw Distillate (Group 3) Cents Per Gallon
4.0 Cts.
3.5 Cts.
3.0 Cts.
Shaded Area Shows Decrease in Stocks
Production
Shipments
Millions of Gallons
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929


Stocks of Gas Oil at Mid-Continent Refineries
Price of 32-36 Gas Oil (Group 3) Cents Per Gallon
3.5 Cts.
3.0 Cts.
2.5 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Millions of Gallons
Millions of Gallons
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

Instruments In Control Room That Guard Every Step In Manufacture—Assuring Absolute Uniformity
Fractionation Towers on Crude Stills

CONTROL which assures UNIFORMITY

Successful jobbers realize the only way to increased profits is through volume sales. More and better satisfied customers. In this age a superior product is the only means of attracting increased trade. Not just gasoline—but gasoline of higher quality than the average—gasoline that is always of *uniform* quality. Here at El Dorado we have provided every modern facility of fractionation and control to make certain *your* products will be of uniform high quality.

Every process in the manufacture of our gasolines is governed by positive control. Extremely sensitive instruments are used in the control of uniformity. The mechanisms are as delicate and accurate as the finest watch movement. Conditions of temperature and pressure are governed by valves that are timed in absolute precision with the instruments. No chance for deviation. Uniformity assured.

El Dorado Gasolines will give your customers a better reason to give you more of their business. Phone or wire for a trial car today.

The El Dorado Refining Co.

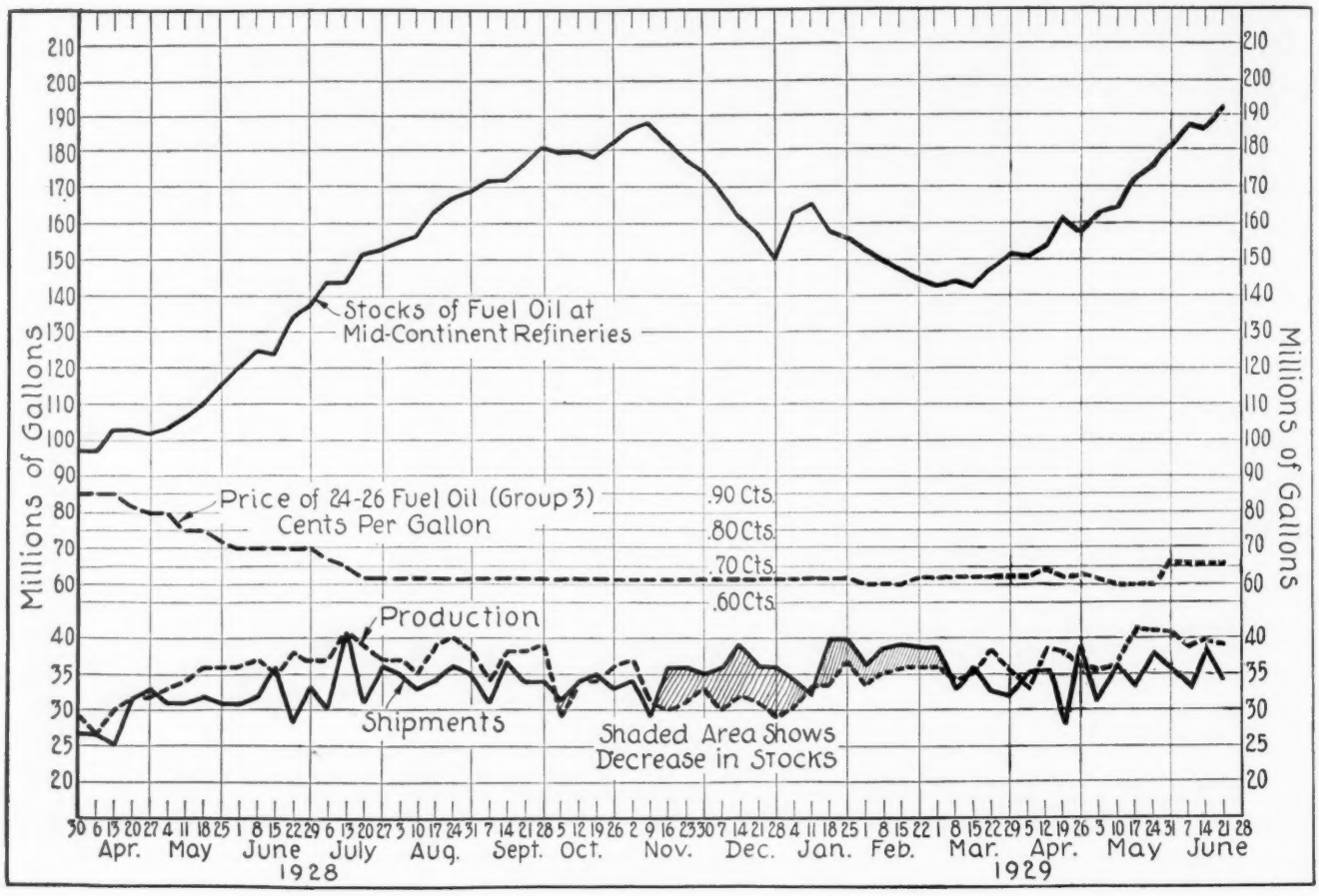
ESTABLISHED 1916

El Dorado, Kansas

JUST PHONE L.D. 11

Barometer of Mid-Continent Refinery Market—Week Ending June 21

Charted Course of Prices, Production, Shipments, Stocks of Principal Refined Products, Week by Week, from Reports Made by 93 Plants to National Petroleum News


Millions of Gallons
Millions of Gallons
Stocks of Fuel Oil at Mid-Continent Refineries
Price of 24-26 Fuel Oil (Group 3) Cents Per Gallon
.90 Cts.
.80 Cts.
.70 Cts.
.60 Cts.
Production
Shipments
Shaded Area Shows Decrease in Stocks
Apr. May June July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. Apr. May June
1928
1929

California Refinery Market

Gasoline Slack Despite T. W. Increase

LOS ANGELES, June 24

DEARTH of spot sales in the Pacific Coast export market continued to worry local refiners. U. S. Motor gasoline was quoted last week at from 7 to 7.50 cents. One large buyer expressed the belief that he could shade the lower figure on firm offer.

Tanker rates of 2.50 cents prevented local shippers from laying gasoline down on the Atlantic Seaboard at a profit and many are of the opinion that rates on clean bottoms will increase.

The local market was still in pretty much of a turmoil. Major oil companies announced an advance of 1 cent in the tank wagon price at all points along the Pacific Coast. The increase became effective June 19.

The new price structure is based upon a total tank wagon price which includes the state tax. The taking over by independent operators of most of the major oil companies' service stations has made the official service price merely a nominal figure.

Practically all major companies still retain several service stations at which they keep a posted price. This is known as the official service station price and is used as the basis for prices in contracts with industrial consumers which are based on the official service station price.

Although the tank wagon and official service station prices were advanced 1 cent June 19, making them 19.5 cents and 23.5 cents, respectively, in Los Angeles, the general retail price at most service stations in Los Angeles remained the same.

Dealers are given a discount of 4 cents below the tank wagon price. That means that for major company products the reseller pays 15.5 cents in Los Angeles.

Quoted prices on refinery products along the Pacific Coast were unchanged from those of last week. Gasoline showed a slight unsteadiness, out of state goods being quoted by one dealer at 7.75 cents while another refused 8.25 cents.

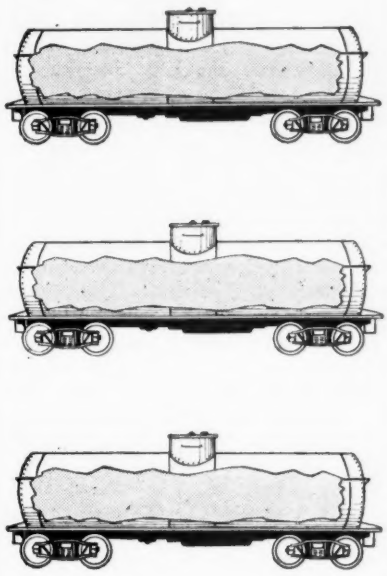
Natural gasoline continued active with the price ranging from 9 to 9.50 cents. Few spot sales were reported although there were several promising inquiries.

Pennsylvania Market

Lubes Quoted Lower

CLEVELAND, June 24.—Recessions of 1 to 2 cents a gallon for cylinder stocks featured western Pennsylvania markets last week. Bright stocks were fairly steady. Gasoline and kerosene showed little change as far as demand was concerned. Slightly lower prices were quoted for the latter commodity. The wax market was somewhat better.

Filterable 600 steam refined cylinder stock sold at prices ranging from 30 to 33.50 cents a gallon last week. The latter price was obtained for premium grade stock. At least two sellers were quoting sizable quanti-



EVERY CARLOAD COLORED ALIKE

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DYKEM GASOLINE COLORS

Several Shades of

RED BLUE
GREEN PURPLE
ORANGE

Samples of shades you prefer and prices gladly submitted.

DYESTUFFS & CHEMICALS, INCORPORATED.
11th and Monroe Sts., ST. LOUIS, MO.

ties at the lower price and buyers reported they were encountering no difficulty in obtaining their requirements at this price.

Other grades of cylinder stock were a shade lower although filtered oils displayed less of a tendency to ease off. The 600 Warren E and 600 Oil City E grades, however, were offered 0.5-cent lower.

The low price reported for light bright stock was 53 cents, the same as a week ago. Demand was reported satisfactory in most quarters.

Excellent motoring weather failed to stimulate higher prices for gasoline. Jobbers' contracts were about taking care of their requirements and consequently there was little spot demand. U. S. Motor gasoline still was freely available in the spot market at 10.25 cents and some goods was even reported available a shade under this figure.

Burning oils were comparatively slow. Kerosene, 45 water white, sold 0.125-cent lower and 36-40 fuel oil also was down 0.125-cent.

Fairly heavy buying from New York dealers for foreign accounts took up a good bit of the distress wax that has been hanging over the market. Prices for white crude scale advanced slightly toward the end of the week as a result. Lower melting point scale sold at 2.50 cents early in the week but later was held at a minimum of 2.75 cents.

MonaMotor to Reopen Omaha Refinery

CLEVELAND, June 24.—The MonaMotor Oil Co. of Council Bluffs, Ia., has purchased the old Omaha Refining Co. plant according to an announcement by H. A. Searle, general manager. The plant is to be remodeled and placed in operation.

The Omaha plant is a 2000 barrel skimming plant with a 1000 barrel Cross cracking plant. It was built during the war but has not been operated since 1927 and only at intervals before that time.

The MonaMotor Co. now has a distributing business in Omaha and Council Bluffs to absorb part of the output of the plant. The company owns the radio station KOIL at Council Bluffs which now is being equipped with more powerful broadcasting apparatus at a cost of $50,000.

No date has been announced for the opening of the refinery and crude supply arrangements have not been given out.

RICHMOND, Va., June 21.—Permission to construct a gasoline filling station on the northwest corner of West Trade street and North Pine streets, Charlotte, N. C., opposite the United States post-office building, has been granted to C. E. Bendenhall by the city council.

INDUSTRIAL OIL CORPORATION

ARE YOU PAYING PREMIUM PRICES ?

YOU don't need to be a "Big Buyer" to get the Lowest Prices and the Quickest Delivery on any Product of Petroleum.

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We are as Close as the Phone at your elbow and waiting to serve you.

WARREN PENNSYLVANIA U·S·A

Gulf Export Market

Demand Light as Tanker Rates Rise

Staff Special
NEW YORK, June 22

THE Gulf market was devoid of activity during the past week. Two inquiries which came into the market the week before were still open June 22. One was for 50,000 barrels of 64-66, 375 e.p. gasoline for early August loading and the other was for a quantity of 28-32 gas oil. The gasoline cargo was expected to be placed sometime during the week of June 24.

In spite of the retarded spot business however, shipments on contract continued to move in a fair way. The movement was heavy enough to boost tanker rates, clean bottoms being rated about 4 cents per barrel higher than they were at the close of last week.

Prices which the Export Petroleum Association posted several weeks ago were still in effect June 22, although one supplier, believed an authority, stated that members of the body expected to revise prices during the week of June 24.

The advance is expected to be from 0.50 to 1 cent. It is hoped that the higher figure will be agreed upon and it is that price for which a number of members are asking. A 2-cent advance, which was being talked of some weeks ago, was said to be out of the question. Kerosene prices are expected to be lowered slightly when the association members reach a decision.

This source of information intimated that it was the condition of the world market, such as was mentioned several weeks ago, that had delayed an advance. United States refiners competing with the Dutch West Indies, Anglo-Persian, Roumanian and Russian refiners who have more advantageous transportation rates, must necessarily keep their prices lower or lose business.

Gasoline business at the Gulf for domestic shipment has also been slow the past week and as a result prices were lower. One buyer obtained a firm quotation of 8.75 cents from one seller for a barge load of U. S. Motor. Another seller indicated he would sell U. S. Motor at that figure while the remainder, although they had no gasoline to offer, felt the market was nearer 9 to 9.25 cents.

New York Domestic Market

Trade Optimistic; Weather Improves

Staff Special
NEW YORK, June 22

GOOD motoring weather all along the eastern seaboard made a heavy inroad on jobbers' supplies of gasoline during the week ended June 22, and as a result refiners reported that shipments were picking up and the market was unchanged at 10 cents at all points.

Kerosene was slow and the price eased off 0.25 cent early in the week at New York. Heavier oils were moving in line with the normal seasonal demand at unchanged prices.

The good weather which has shown some delay in arriving has put a more optimistic tone to the market than has existed for some weeks. Early in the week it was reported that three or four sellers were anticipating advancing prices both for regular U. S. Motor and California gasoline 0.50 cent. They had made no raise however, up to June 22.

One of these sellers stated that his business so far this month, due mostly to the last week's demand, was about on a par with last month. He totaled better than 20,000,000 gallons in May and said he expected June to do even better. Other sellers made various reports as to shipments, some of them saying they were lower this month and others claiming they were about normal for this time of year.

All, however, said that there was a better demand the last week than for several weeks. One seller who contracts quite a bit of his goods at 0.25 under the spot market said his customers were taking out all their commitments and in one or two cases he had turned away orders.

While the tank car business has been good there have been reports of two companies delivering gasoline in New York by tank wagon at a price which would make the f.o.b. refinery price under 9 cents. There were one or two reports of shading the tank car market also but none of them could be confirmed.

The drop in kerosene prices was expected now that the season has passed. One of the principal refiners in the east announced June 19 that his price was 7.75 cents at New York. Two or three other sellers were quoting that price while the remainder were asking 8 cents. The majority reported the market was dull.

A similar report was heard in Philadelphia and Baltimore although prices were unchanged. One seller at Baltimore is selling goods at 8.50 cents. It is a little higher in gravity than the ordinary grade marketed there.

Wax Market

White Crude Scale Higher

NEW YORK, June 22.—Prices for white and yellow crude scale were higher at the close of the past week. Fully refined goods were unchanged with the exception of 125-127 A.m.p. which was a trifle lower.

The same situation that has existed for the past several weeks—a slow market—was evident June 22. The slightly higher prices for white and yellow crude scale were not taken as an indication that the market was stronger but, that refiners had closed out most of the distress material.

Both grades of white crude scale were quoted at 2.75 to 2.875 cents whereas a week ago some sales had been made at 2.625 cents. All sellers were of the opinion that on small lots 2.75 cents could not be shaded. Yellow crude scale was quoted at 2.625 cents with no shading reported.

There were only a few sales reported on the lower melting point fully refined waxes and those were mostly for domestic shipment. One seller was negotiating a sizable order of yellow crude scale for foreign shipment at 2.625 cents. He expected the order to be placed early next week.

Sellers continued to get inquiries from abroad with suggestions of contracts over an extended period but usually the cables contained bids which refiners did not care to meet. Several sellers reported they were out of the market until prices came up, that their stocks were in fair shape and they were not pressed for business.

Others were quoting only for a short period as they expected the peak

demand this fall to cause a return of better prices. Two sellers were reported to have contracted some goods for shipment into the United Kingdom over next year, although these reports could not be confirmed.

One seller said he had sold some 135-137 A.m.p. fully refined wax the past week at slightly in excess of 6.50 cents, which was generally considered to be the market. There is a comparatively small amount of that grade manufactured and sometimes higher prices than the general idea of the market are obtained.

Wage Agreement With Oil Employees Signed

CHICAGO, June 22.—There will be no strike by the tank truck drivers and service station attendants in Chicago this year. By an agreement just reached between the oil distributors and Local 705, the oil drivers and station attendants union, all danger seemingly is averted for the next three years.

All the provisions of the present agreement, which expires July 1, 1929, will remain in effect over this period, except that the tank truck drivers with a record of 52 weeks continuous service will be entitled to vacations.

Two years ago the local oil distributors and their tank truck drivers and service station men had a disagreement regarding wages and vacations. The truck drivers wanted a $15 per month increase and a week's vacation with pay while the service station attendants wanted a $10 per month increase.

When no agreement was reached the union called a strike against the Sinclair Refining Co. and on July 8 all their truck drivers and station attendants walked out. As soon as this happened the other major Chicago distributors, including Standard of Indiana, Shell Oil Corp. and The Texas Co. immediately ordered their stations closed. By 3 p.m. July 8 the bulk of the service stations in the Chicago area were closed and motorists were beginning to notice the lack of gasoline.

A settlement was reached on July 9 between Local 705 and a committee of the oil companies. This gave the truck drivers and station attendants an increase of $7.50 and $5.00 per month respectively, but the drivers did not receive a vacation with pay.

Organize New Station Company

CLEVELAND, June 22.—The Majestic Oil & Gas Co. of Gillespie, Ill., has been organized by W. E. Schmidt, M. F. Napier, E. H. Crow and T. W. Stehlin. Capital stock is $2400. The charter permits filling station operation.

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A Niagara Oil Meter gives you absolute check on the oil and gasoline bought and sold in your business. It prevents waste or theft by your employees—it tells you the facts you ought to know about your cash, accounts receivable and inventory. It catches mistakes and discrepancies when they happen making it possible to correct them with the least amount of time, trouble and effort.

More than 31,000 Niagara Oil Meters made extra profits last year for their purchasers and will continue to pay more than 100% profit on their cost for many years to come. Send the coupon below for facts about a Niagara Oil Meter for use in your business.

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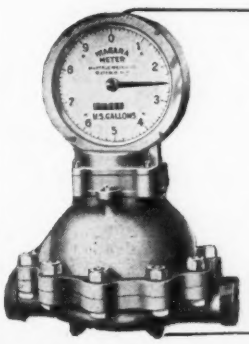

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Complete Seaboard Market

(Export Markets for whole year given in OIL PRICE HANDBOOK. Each volume carries refinery, tank wagon, crude and export markets—complete for the whole year)

Eastern Domestic Market

(Prices for tank car lots, f. o. b. refinery or seaboard terminal, representing majority of quotations.)

U. S. MOTOR GASOLINE	June 24	June 17	June 10
New York harbor	10.00	10.00	10.00
Portland district	*12.25	*12.25	*12.25
Boston district	*11.75	*11.75	*11.75
Providence district	*11.75	*11.75	*11.75
Philadelphia district	10.00	10.00	10.00
Baltimore district	10.00	10.00	10.00
Norfolk district	10.00	10.00	10.00
Charleston district	10.00	10.00	10.00
Savannah district	10.00	10.00	10.00
Jacksonville district	10.00	10.00	10.00
CALIFORNIA, U. S. MOTOR GASOLINE			
New York harbor	10.00 –10.50	10.00 –10.50	10.00 –10.50
Philadelphia district	10.00	10.00	10.00
Baltimore district	10.00	10.00	10.00
WATER WHITE KEROSENE			
New York harbor	7.75 – 8.00	8.00	8.00
Philadelphia district	7.75 – 8.00	8.00	8.00
Baltimore district	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
GAS OIL: 28-34 Gravity			
New York harbor	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
Boston district	4.75 – 5.00	4.75 – 5.00	4.75 – 5.00
FURNACE OIL: 36-40 Gravity			
New York harbor	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
Boston district	6.00 – 6.50	6.00 – 6.50	6.00 – 6.50
GRADE C BUNKER OIL†			
New York harbor	$1.05	$1.05	$1.05
Boston district	$1.05	$1.05	$1.05
DIESEL OIL			
New York harbor	$2.00 –$2.10	$2.00 –$2.10	$2.00 –$2.10
MEDICINAL OILS, RUSSIAN			
885-890 s.g. 325-330 vis.	$0.75 – 0.80	$0.75 – 0.80	$0.75 – 0.80
870-875 s.g. 150-155 vis.	$0.65 – 0.70	$0.65 – 0.70	$0.65 – 0.70

Note: Above gasoline prices do not include inspection tax levied in some states

*Minimum delivered. **Delivered prices. †Lighterage 5c per bbl. additional

New York Export Market

(Lubricating oils are per gal. in bbls.)

	June 24	June 17	June 10
CYLINDER OILS (Pennsylvania Products)			
Bright stock, dark	58.00 –60.00	58.00 –60.00	*60.00 –62.00
600 D filtered	47.00 –49.00	47.00 –49.00	*47.00 –49.00
600 Warren E filtered	45.00 –46.00	45.00 –46.00	*46.00 –47.00
600 s.r. unfiltered	40.00 –41.00	40.00 –41.00	*41.00 –43.00
550 s.r., unfiltered	46.00 –48.00	46.00 –48.00	*46.00 –48.00
600 flash, s.r.	48.00 –50.00	48.00 –50.00	*48.00 –50.00
630 flash, s.r.	51.00 –52.00	51.00 –52.00	*52.00 –55.00
*Nominal			
RED ENGINE OILS (Vis. 100°)			
300 vis. No. 6½ color	20.00 –21.00	20.00 –21.00	20.00 –21.00
250 vis. No. 6 color	18.00 –20.00	18.00 –20.00	18.00 –20.00
200 vis. No. 6 color	16.00 –18.00	16.00 –18.00	16.00 –18.00
PALE ENGINE OILS (Vis. 100°)			
230 vis. No. 3¾ color	23.50	23.50	23.50
180 vis. No. 3¼ color	18.50 –20.50	18.50 –20.50	18.50 –20.50
100 vis. No. 2¼ color	16.00 –17.00	16.00 –17.00	16.00 –17.00
MOTOR OILS (Vis. 100°)			
600 vis. No. 7 color	33.00	33.00	33.00
500 vis. No. 6½ color	31.00	31.00	31.00
400 vis. No. 7¼ color	30.00	30.00	30.00
300 vis. No. 6 color	25.00 –27.00	25.00 –27.00	25.00 –27.00
200 vis. No. 6 color	24.00	24.00	24.00
MEDICINAL OILS			
875-885 s.g.	$0.80	$0.80	$0.80
865-870 s.g.	$0.70	$0.70	$0.70
WAXES (In cents per pound, f.a.s. carload lots)			
WHITE CRUDE SCALE (In barrels)			
122-124 A.m.p.	2.75 – 2.875	2.625– 2.875	2.875
124-126 A.m.p.	2.75 – 2.875	2.625– 2.875	2.875
FULLY REFINED (In burlap bags)			
123-125 A.m.p. Phila.	3.875– 4.125	3.875– 4.125	4.00 – 4.25
125-127 A.m.p.	4.00 – 4.125	4.00 – 4.25	4.00 – 4.25
128-130 A.m.p.	4.25 – 4.50	4.25 – 4.50	4.25 – 4.50
130-132 A.m.p.	5.50 – 5.75	5.50 – 5.75	5.50 – 5.75
133-135 A.m.p.	6.00 – 6.25	6.00 – 6.25	6.00 – 6.25
135-137 A.m.p.	6.50	6.50	6.50
YELLOW CRUDE SCALE			
124-126 A.m.p.	2.625	2.50 – 2.625	2.625– 2.75

Gulf Export Market

(Prices are f. o. b. Gulf oil terminals in Texas and Louisiana, shipments of 20,000 bbls. or more unless otherwise noted and for export shipment only).

GASOLINE	June 24	June 17	June 10
U. S. Motor	8.50	8.50	8.50
60-62 400 e.p.	9.50	9.50	9.50
61-63, 390 e.p.	9.75	9.75	9.75
64-66, 375 e.p.	10.00	10.00	10.00
U. S. Motor, cases (cargoes)	$1.75	$1.75	$1.75
64-66, cases (cargoes)	$1.90	$1.90	$1.90
KEROSENE			
44 water white	8.75	8.75	8.75
41-43 prime white	7.75	7.75	7.75
Water white, cases (cargoes)	$1.80	$1.80	$1.80
Prime white, cases (cargoes)	$1.70	$1.70	$1.70
DOMESTIC GAS & BUNKER OILS			
*26-30 translucent gas oil	4.00	4.00	4.00
*30 plus translucent gas oil	4.00 – 4.125	4.00 – 4.125	4.00 – 4.125
Grade C bunker oil	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
Grade C bunker oil, cargoes	$0.75 – 0.85	$0.75 – 0.85	$0.75 – 0.85
*Less than ½ of 1% sulfur.			
MEXICAN CRUDE AND BUNKER OILS (F. O. B. Steamer, Tampico)			
Heavy Panuco crude taxes to be paid	$0.60 –$0.65	$0.60 –$0.65	$0.60 –$0.65
Grade C bunker oil, for bunkering purposes, taxes paid	$0.95 –$1.00	$0.95 –$1.00	$0.95 –$1.00
SOUTH TEXAS LUBRICATING OILS, (Viscosity at 100° F.(cold test 0) (Tanker, f. o. b. Houston)			
100 vis. No. 2 unfiltered pale	7.00	6.50 – 6.75	6.50 – 6.75
200 vis. No. 3 unfiltered pale	8.50 – 9.50	8.50 – 9.50	8.50 – 9.50
300 vis. No. 3 unfiltered pale	9.50 –10.50	9.50 –10.50	9.50 –10.50
500 vis. No. 3½ unfiltered pale	11.00 –12.00	11.00 –12.00	11.00 –12.00
750 vis. No. 4 unfiltered pale	13.50 –14.00	13.50 –14.00	13.50 –14.00
1200 vis. No. 5 unfiltered pale	16.50 –17.00	16.50 –17.00	16.50 –17.00
200 vis. No. 5-6 red oil	8.00 – 8.50	8.00 – 8.50	8.00 – 8.50
300 vis. No. 5-6 red oil	8.50 – 9.00	8.50 – 9.00	8.50 – 9.00
500 vis. No. 5-6 red oil	10.00 –10.50	10.00 –10.50	10.00 –10.50
750 vis. No. 5-6 red oil	12.00 –12.50	12.00 –12.50	12.00 –12.50
1200 vis. No. 5-6 red oil	16.50 –17.00	16.50 –17.00	16.50 –17.00

Gulf Domestic Market

(Prices are f.o.b. Gulf oil terminals in Texas and Louisiana in shipments of 20,000 bbls. or more, representing sellers' opinions, for domestic shipment only).

	June 24	June 17	June 10
U. S. Motor gasoline	8.75 – 9.25	9.00 – 9.50	9.00 – 9.50
41-43 w.w. kerosene	7.25	7.25	7.25
*26-32 translucent gas oil	4.00	4.00	4.00
*Less than ½ of 1% sulfur.			

Pacific Export Market

(Quotations are at seaboard, Los Angeles, in cargo lots, cents per gallon, except where otherwise noted.)

	June 24	June 17	June 10
Gasoline, U. S. Motor, 53-55 Gravity	7.00 – 7.50	7.00 – 7.50	7.00 – 7.50
Gasoline, U. S. Motor-blends and special cuts	7.50 –10.00	7.50 –10.00	7.50 –10.00
Gas Oil, 30-34, per barrel	$0.95 –$1.05	$0.95 –$1.05	$0.95 –$1.05
Diesel Oil, 27 plus, per barrel	$0.875–$1.00	$0.875–$1.00	$0.875–$1.00
Bunker oil, 14-18, per barrel	$0.70 –$0.85	$0.70 –$0.85	$0.70 –$0.85
Fuel oil, 14-18 per barrel	$0.60 –$0.85	$0.60 –$0.85	$0.60 –$0.85
Kerosene, 38-40 w.w., 125-150 flash, per gal.	5.50 – 6.25	5.50 – 6.25	5.50 – 6.25
Cased Goods			
Gasoline, U. S. Motor	$1.75 –$1.85	$1.75 –$1.85	$1.75 –$1.85
Kerosene, 38-40 w.w., 125, 150 flash	$1.45 –$1.50	$1.45 –$1.50	$1.45 –$1.50

Tanker Rates

(Approximate tanker freight rates to Continental ports, in shillings per ton of 2240 pounds, British sterling; to American ports, cents per barrel.)

	June 24	
	Crude &/or Fuel	Refined Oil &/or Spirits
Calif. to U. K or Continental ports*	30–32	38–40
Gulf to U. K. or Continental ports*	20–25	23–25
North Atlantic to U. K. or Continental ports*	18–23	21–23
Calif. to North Atlantic ports (not E. of N. Y.)	80–90	$1.07–$1.10
Gulf to North Atlantic ports (not E. of N. Y.)**	35	40

*Continental ports in the range between Bordeaux and Hamburg, both inclusive.

**For Venezuela loading 1c per bbl. additional. For Tampico loading 4c per bbl. additional.

PETROLEUM PRODUCTS
From All Fields

Carloads, Tank Cars, and Cargoes
For Domestic or Export

GASOLINE KEROSENE NAPHTHA
CRUDE OIL FUEL OIL GAS OIL FURNACE OIL
CYLINDER STOCKS
UNFILTERED AND FILTERED
BRIGHT STOCKS
COLD SETTLED AND CENTRIFUGED
PALE — RED OILS
WAX — PETROLATUM
TECHNICAL WHITE OILS
WHITE MINERAL OILS

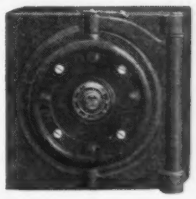
For 35 years of reliability, service and integrity— this Company enjoys an International Reputation

JAMES B. BERRY SONS' CO., INC.
General Office—Oil City, Pa.

District Offices at
New York, Philadelphia, Boston, Chicago
London — Hamburg

Cable Address—JASBER Oil City *All Codes*

Thieves know and avoid **York Round Door Chests**



Large filling station chains have noticed a marked decrease in the number of attacks by burglars on their stations following the installation of York Round Door Chests.

Insurance companies grant it their lowest burglary rate.

Write your name and address on the margin of this advertisement for complete information.

YORK SAFE & LOCK COMPANY
YORK, PA

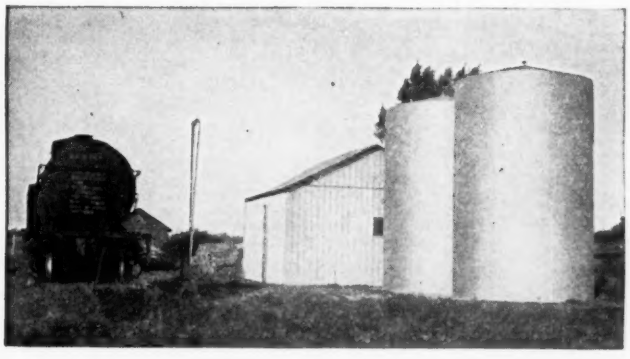
Order Those Tanks NOW!

Why Wait Until the Oil Rush Passes You By?

Tanks On Hand Ready For Immediate Shipment

The original double (two operation) Butt Welded Type Storage Tanks,
One piece bottoms or ends, thickness of material guaranteed.

TRUCK TANKS, BARRELS, PUMPS, FITTINGS, COMPLETE EQUIPMENT



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Send prices and specifications on the following:

..... **Tanks**

..... **Fittings**

..... **Other Equipment**

Name .....

Address .....

BROWN SHEET IRON & STEEL CO.

978 Berry Avenue - - - ST. PAUL, MINN.

Tank Wagon Service Station Markets for Gasoline and Kerosene

(OIL PRICE HANDBOOK has t.w. and s.s. markets for a whole year, arranged for quick reference)

These Prices in Effect June 24, 1929, as Posted by Principal Marketing Companies

S.O. NEW JERSEY TERRITORY

	Gasoline T.W.	Tax	Total T.W.	S.S	Oil T.W.
Atlantic City, N. J.	12	2	14	18	13
Newark, N. J.	14	2	16	20	13
Annapolis, Md.	14	4	18	22	13
Baltimore, Md.	14	4	18	22	12
Cumberland, Md.	14	4	18	22	13
Washington, D. C.	14	2	16	20	12
Danville, Va.	14	5	19	23	12
Norfolk, Va.	14	5	19	23	13
Richmond, Va.	14	5	19	23	13
Roanoke, Va.	14	5	19	23	13
Petersburg, Va.	14	5	19	23	13
Charleston, W. Va.	14	4	18	22	13
Keyser, W. Va.	14	4	18	22	13
Parkersburg, W. Va.	14	4	18	20	13
Wheeling, W. Va.	14	4	18	22	13
Charlotte, N. C.	14	5	19	23	13
Hickory, N. C.	14	5	19	23	13
Mt. Airy, N. C.	14	5	19	23	13
Salisbury, N. C.	13	5	18	20	13
Charleston, S. C.	14	6	20	24	13
Columbia, S. C.	14	6	20	24	13

CONTINENTAL OIL

Denver, Colo.	14	4	18	21	15.5
Pueblo, Colo.	14	4	18	21	15.5
Grand Junc., Colo.	18.5	4	22.5	25.5	19
Casper, Wyo.	17	4	21	24	14
Cheyenne, Wyo.	18	4	22	25	15.5
Butte, Mont.	20.5	5	25.5	28.5	20
Helena, Mont.	20.5	5	25.5	28.5	20
Salt Lake City, Utah	18.5	3½	22	25	17
Boise, Ida.	20.5	4	24.5	27.5	19
Twin Falls, Ida.	20.5	4	24.5	27.5	19
Albuquerque, N. M.	16	5	21	24	17

S. O. CALIFORNIA

Phoenix, Ariz.	14	4	18	22	21.5
Los Angeles, Cal.	16.5	3	19.5	23.5	15.5
Fresno, Cal.	17	3	20	24	16.5
San Francisco, Cal.	17	3	20	24	15.5
Reno, Nev.	21	4	25	29	19
Portland, Ore.	17.5	3	20.5	24.5	16.5
Seattle, Wash.	17.5	2	19.5	23.5	16.5
Spokane, Wash.	21.5	2	23.5	27.5	20.5
Tacoma, Wash.	17.5	2	19.5	23.5	16.5

Note: 3c per gal. discount to dealers off t.w. price thru S. O. California territory.

S. O. LOUISIANA

Little Rock, Ark.	15	5	20	24	13
Alexandria, La.	14	4	18	22	†16
Baton Rouge, La.	13	4	17	21	†14.5
Lake Charles, La.	††15.5	4	††19.5	††23.5	†16
New Orleans, La.	*14.5	4	*18.5	22.5	†16
Shreveport, La.	14.5	4	18.5	22.5	†15
Lafayette, La.	**15	4	**19	**23	†14
Bristol, Tenn.	17	5	22	25	14
Chattanooga, Tenn.	16.5	5	21.5	25.5	16
Knoxville, Tenn.	15	5	20	24	16
Nashville, Tenn.	14	5	19	23	16
Memphis, Tenn.	13	5	18	22	12.5

*New Orleans gasoline prices include 1c parish tax in addition to 4c state tax, and kerosene prices include 1c state tax and 1c parish tax.

†Kerosene price in Louisiana includes 1c state tax.

**Lafayette gasoline prices include 1c parish tax in addition to 4c state tax.

††Lake Charles gasoline prices include 1c parish tax

S. O. KENTUCKY

Ashland, Ky.	13	5	18	19	15.5
Catlettsburg, Ky.	13	5	18	19	15.5
Lexington, Ky.	16	5	21	23	15.5
Louisville, Ky.	16	5	21	23	15
Covington, Ky.	16	5	21	22	15.5
Clarksdale, Miss.	17	5	22	24	12.5
Gulfport, Miss.††	18.5	5	23.5	25.5	14
Jackson, Miss.	17	5	22	24	13
Natchez, Miss.	16.5	5	21.5	23.5	14
Vicksburg, Miss.	16.5	5	21.5	23.5	14
Birmingham, Ala.	18	4	22	24	16
Mobile, Ala.‡	18	4	22	24	15
Montgomery, Ala.*	19	4	23	25	16.5
Atlanta, Ga.	18	4	22	24	†16.5
Augusta, Ga.	18	4	22	24	†15.5
Macon, Ga.	18	4	22	24	†16.5
Savannah, Ga.	17	4	21	23	†15.5
Jacksonville, Fla.	17	5	22	24	14.5
Miami, Fla.	18	5	23	25	15.5
Tampa, Fla.	17	5	22	24	14.5
Pensacola, Fla.**	18	5	23	25	14.5

‡ **Note: Net price to dealers is 2c under posted t.w. price thru S. O. Kentucky territory.**

Latest Changes In Tank Wagon Prices

Gasoline Changes

S. O. Ohio—T.w. and s.s. gasoline cut 2c, Chillicothe, both to 17c, **June 14.**

Magnolia Petroleum—T.w. and s.s. gasoline up 2c, Dallas and San Antonio, and 1c, Houston and Fort Worth, **June 11.** This brings t.w. price at the three former points to 15c, and s.s. to 19c, and at Fort Worth t.w. to 15c, and s.s. to 18c, including 2c tax.

T.w. and s.s. up 1c, Texarkana, to 16c and 20c respectively, including 2c Texas tax, **June 14.**

Gasoline up 1c, thru Oklahoma, to cover tax increase to 4c, **June 24.** Tax went into effect **June 22.**

S. O. Louisiana—T.w. and s.s. gasoline cut 2c, Knoxville, to 20c and 24c respectively, **June 14.**

S. O. California—T.w. and s.s. gasoline up 1c, thru territory, **June 19.**

*Local privilege tax of 1 cent on gasoline and ½ cent on kerosene at Montgomery included. ‡Mobile gasoline prices include 1c city tax.

†Georgia kerosene prices include 1c state tax.

**Both tank wagon prices include 1c city tax at Pensacola, which went into effect Oct. 15, 1926.

††Both tank wagon prices at Gulfport include Harrison county privilege tax of 2c.

S. O. NEBRASKA

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Omaha, Neb.	16.25	4	20.25	22.25	13.25
McCook	17.75	4	21.75	23.75	14.75
Norfolk	16.75	4	20.75	22.75	13.75
North Platte	17.75	4	21.75	23.75	14.50
Scottsbluff	17.75	4	21.75	23.75	14.25

S. O. INDIANA

Chicago, Ill.	16.0	0	16.0	17.0	13
Decatur, Ill.	16.2	0	16.2	17.2	13.1
E. St. Louis, Ill.	15.4	0	15.4	16.4	12.2
Joliet, Ill.	16.4	0	16.4	17.4	13.3
Peoria, Ill.	16.2	0	16.2	17.2	13.1
Quincy, Ill.	16.2	0	16.2	17.2	12.9
Indianapolis, Ind.	16.2	4	20.2	21.2	14.2
Evansville, Ind.	16	4	20	21	14
South Bend, Ind.	16.4	4	20.4	21.4	14.4
Detroit, Mich.	16.8	3	19.8	20.8	14.7
Grand Rapids, Mich.	16.7	3	19.7	20.7	14.6
Saginaw, Mich.	16.9	3	19.9	20.9	14.8
Green Bay, Wisc.	16.6	2	18.6	19.6	13.4
Madison, Wisc.	16.3	2	18.3	19.3	13.1
Milwaukee, Wisc.	16.1	2	18.1	19.1	12.9
La Crosse, Wisc.	17.2	2	19.2	20.2	14
Minneapolis, Minn.	17.2	3	20.2	21.2	13.9
Duluth, Minn.	17.5‡		20.5	21.5	13.9
Mankato, Minn.	17.1	3	20.1	21.1	13.7
Des Moines, Ia.	16.5	3	19.5	20.5	13.3
Davenport, Ia.	16.5	3	19.5	20.5	13.3
Sioux City, Ia.	16.1	3	19.1	20.1	12.9
Mason City, Ia.	16.5	3	19.5	20.5	13.3
St. Louis, Mo.	*15.9	2	17.9	18.9	12.3
Kansas City, Mo.	†16.9	2	18.9	19.9	11.6
St. Joseph, Mo.	†16.5	2	18.5	19.5	12.2
Fargo, N. D.	18.9	2	20.9	21.9	15.9
Grand Forks, N. D.	19.2	2	21.2	22.2	16.2
Minot, N. D.	18.9	2	20.9	21.9	15.9
Pierre, S. D.	17	4	21	22	14.4
Huron, S. D.	17.3	4	21.3	22.3	14.7
Wichita, Kans.	14.8	3	17.8	18.8	11.8
Bartlesville, Okla.	14.5	3	17.5	18.5	11.5

S. O. Indiana's quantity contract price schedule thru territory except Chicago on tank truck deliveries of gasoline, figured from the service station price, is 2c for 500 gals. or more a month; 2½c for 2000 gals. or more a month and 3c for 6000 gals. or more a month.

In Chicago and vicinity, these discounts apply: Over 500 gals. per month, 2c per gal. off service station price; over 1,000 gals. per month, 4c per gal. off service station price.

*Includes city tax of ½c.

†Includes city tax of 1c.

S. O. OHIO

Bryan and Chillicothe	*13	4	*17	17	14
Lima and Hamilton.	**14	4	**18	18	14
††12 Competitive Points.	††15	4	††19	19	14
†At 6 Competitive Points	*15	4	*19	20	14
Elsewhere in Ohio.	*16	4	*20	21	14

†These 6 points are: Marion, Hicksville, Celina, Arlington, Mortimer and Nevada, O.

*Dealers and commercial accounts get 2c per gal off t. w. price.

††These 12 points are: Findlay, Washington C. H., Arcadia, Perrysburg, Fostoria, Wapakoneta, Urbana, Jamestown, Xenia, St. Paris, Ada and Piqua. Discount to dealers is 3c per gal. off t.w. price.

**Discount to dealers and commercial consumers is 3c per gal. off t.w. price.

MAGNOLIA PETROLEUM

Muskogee, Okla.	12	4	16	19	13
Oklahoma City	12	4	16	19	10
Tulsa, Okla.	10	4	14	18	10
Fort Smith, Ark.†	12	†3	15	19	12
Little Rock, Ark.	15	5	20	24	13
Texarkana, Ark.*	14	*2	16	20	13
Dallas, Tex.	13	2	15	19	13
Fort Worth, Tex.	13	2	15	18	12
Houston, Tex.	13	2	15	19	13
San Antonio, Tex.	13	2	15	19	11
El Paso, Tex.	15	2	17	20	16

*Within city of Texarkana, the state tax on gasoline is 2c per gal. conforming with the Texas state tax. In this district outside of the city the 5c Arkansas tax applies.

†Within city of Fort Smith, Oklahoma tax of 3c applies. In this district outside of the city, the 5c Arkansas tax applies.

S. O. NEW YORK

Due to local price conditions at many points in S. O. New York territory, actual prices on both gasoline and kerosene are being made at under the posted tank wagon prices published below.

New York City	17	2	19	*21	15
Albany, N. Y.	15	2	17	19	15
Buffalo, N. Y.	15	2	17	19	14
Rochester, N. Y.	15	2	17	19	13
Syracuse, N. Y.	15	2	17	19	12
Boston, Mass.	16	2	18	20	15
Augusta, Me.	16	4	20	22	15
Manchester, N. H.	16	4	20	22	15
Burlington, Vt.	16	4	20	22	13

Note: S. O. New York allows concessions of 1 to 2c per gal. to dealers under posted tank wagon prices.

*The Standard of New York does not operate stations in New York City. This figure is the retail price of a principal station operator in New York selling Socony gasoline

ATLANTIC REFINING

Pittsburgh, Pa.	17	*	17	22	14
Philadelphia, Pa.	17	*	17	22	14
Allentown, Pa.	17	*	17	22	14
Erie, Pa.	13	*	13	18	14
Scranton, Pa.	17	*	17	22	14
Altoona, Pa.	17	*	17	22	14
Williamsport, Pa.	16	*	16	19	14

Above prices include these inspection fees on both gasoline and kerosene, per gallon: Alabama, 1,40c on gasoline, 1/2c kerosene; Arkansas, 1/20c on both; Florida, 1/8c on both; Georgia, 1/10c on both; Indiana, 4/25c to 1/2c on both; Kansas, 3/50c on both; Louisiana, 1/32c on gasoline; Minnesota, 3/50c on both; Missouri, 3/10c to 1/2c on both; Nebraska, 3/50c to ½c on both; North Carolina, 1/4c on both; North Dakota, 1/20c on both; Oklahoma, 4/25c on both; South Carolina, 1/8c on both; South Dakota, 1/10c on both; Tennessee, 2/5c on gasoline and 1/2c to 4/5c on kerosene; Wisconsin, 3/50c on both.

Kerosene inspection fees only, per gallon; Iowa, 7/100c; Michigan 1/5c to 4/5c per gal.

In Illinois, cities and villages have the power to appoint oil inspectors and fix inspection fees which is done in some instances. In some cases in the above tates or other states there are local inspection fees.

Tank Wagon, Service Station Markets for Gasoline and Kerosene

Prices in Effect June 24, 1929

ATLANTIC REFINING

	Gasoline T.W.	Tax	Total T.W.	S.S.	Oil T.W.
Dover, Del.	17	3	20	22	14
Wilmington, Del.	17	3	20	22	14
Boston, Mass.	16	2	18	20	15
Springfield, Mass.	16	2	18	20	15
Worcester, Mass.	15	2	17	18	15
Fall River, Mass.	14	2	16	17	15
Providence, R. I.	14	2	16	17	15
Hartford, Conn.	16	2	18	20	14
New Haven, Conn.	16	2	18	20	15
Atlantic City, N. J.	16	2	18	20	13
Camden, N. J.	16	2	18	20	13
Trenton, N. J.	16	2	18	20	13
Annapolis, Md.	16	4	20	22	13
Baltimore, Md.	16	4	20	22	13
Hagerstown, Md.	16	4	20	22	13
Richmond, Va.	16	5	21	23	13
Wilmington, N. C.	16	4	20	22	13
Brunswick, Ga.	17	4	21	23	**16.5
Jacksonville, Fla.	17	5	22	24	14.5

Note: 2c per gal. discount off t.w. price to dealers thru territory; also 2c off to commercial accounts under contract for one year.

*3-cent state tax is collected by retail dealer and paid by him directly to state.

**Georgia kerosene prices include 1c state tax.

V. M. & P. NAPHTHA

(Changes ordinarily occur coincident with gasoline price changes)

	Oleum Spirits	V.M.&P. Naphtha	Cleaner Naphtha
Chicago	15.7	17.2	19
Detroit	17.4	18.9	20.7
Kansas City	†15.9	†17.4	†19.2
Milwaukee	16.4	*19.9	*21.7
Minneapolis	*19.7	*21.2	*23
St. Louis	15.6	17.1	18.9
New York		17	23
Boston		19	23

*Includes 2c state tax. †Includes 1c city tax.

Petroleum Spirits

Tank Cars (Solvent)	
New York refineries	12.00
Philadelphia refineries	12.00
Tank Wagon or Steel Barrels	
New York City	17
New England	19
New Jersey	16
Pennsylvania	16–18

CANADA

(Per Imperial Gallon, which is 1.2 American Gallons)

	Gasoline T.W.	Tax	Total T.W.	S.S	Oil T.W.
ONTARIO					
Toronto	20.5	5	25.5	29	21
Ottawa	14.5	5	19.5	23	21
Cochrane	25.5	5	30.5		26
Ft. William	23.5	5	28.5	32	23.5
MANITOBA					
Winnipeg	22.5	3	25.5	29	22.5
SASKATCHEWAN					
Regina	27	3	30	34	27
ALBERTA					
Edmonton	28.5	5	33.5	37	28.5
Calgary	24.5	5	29.5	33	24.5
BRITISH COLUMBIA					
Vancouver	23	3	26	30	24
QUEBEC					
Montreal	21.5	5	26.5	30	22
Quebec City	22.5	5	27.5	31	23
Three Rivers	22.5	5	27.5	31	23
NEW BRUNSWICK					
St. John	25	5	30	34	25
Moncton	25	5	30	34	25
NOVA SCOTIA					
Halifax	25	5	30	34	25
Sydney	25	5	30	34	25
PRINCE EDWARD ISLAND					
Charlottetown	25	5	30	34	25

Note: In districts surrounding these points 1c additional is added to city price.

Skilled Supervision
Guarantees the Quality of Gulf Products

COASTAL AND PARAFFINE CRUDES
GASOLINE — LUBRICATING OILS
NAPHTHA — GAS — OILS
WAX — PETROLEUM COKE
CYLINDER—ENGINE—CORDAGE

Gulf Refining Company

General Sales Offices
PITTSBURGH, PA.

District Sales Offices
New York, Boston, Philadelphia, Louisville, Atlanta, Houston, New Orleans

STEEL
DRUM ACCESSORIES
CORPORATION
BUFFALO, NEW YORK
"The House of Drum Faucets"

Popularity

Shell Motor Oil—five years ago unknown—is now up among the leaders in popularity. The two main factors responsible for this sensational success in a highly competitive field are:

1. The Prestige of the SHELL Name... Motorists from coast to coast are familiar with the high reputation of Shell and realize that is it always a guarantee of dependable petroleum products.

2. The Quality of the Oil Itself... In Shell Motor Oil the three essentials of perfect lubrication are combined—low pour point, low carbon residue and ample viscosity at operating temperatures.

Applications for the Shell Motor Oil franchise are constantly being received even from territories in which Shell Petroleum Products have not yet been introduced—proof that Shell Motor Oil has its own individual selling appeal.

Your inquiry about Shell Motor Oil and open franchises is invited.

SHELL PETROLEUM CORPORATION • • SHELL BLDG. • • SHELL CORNER • • ST. LOUIS

Branch Offices: Chicago, Ill. • • Cleveland, Ohio • • Kansas City, Mo. • • Tulsa, Okla.

Crude Oil Prices (in Effect June 24, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

EASTERN FIELDS

(Posted by Joseph Seep Purchasing Agency)

Penna. Grade Oil in New York Transit Lines (Alleghany, N. Y. District) $4.10
Bradford District Oil in National Transit Lines (Bradford District) 4.10
Penna. Grade Oil in National Transit Lines (Other Pennsylvania) 4.00
Penna. Grade Oil in Southwest Penna. Pipe Lines (Other Pennsylvania) 4.00
Penna. Grade Oil in Eureka Pipe Lines (West Virginia) 3.90
Penna. Grade Oil in Buckeye Pipe Lines (Macksburg, O. district) 3.85
Cabell Grade in Eureka Pipe Lines (West Virginia) 1.65
Corning Grade in Buckeye Pipe Lines (Ohio) 1.90
Corning, O., heavy grade 1.80
Somerset Oil in Cumberland Pipe Lines (Kentucky) 1.80
Ragland Grade in Cumberland Pipe Lines (Kentucky) $0.60

(Posted by Stoll Oil Refining Co.)

Oil City, Ky., oil in Stoll lines $1.80

MICHIGAN

(Posted by Dixie Oil Co.)

Dundee (Muskegon) $1.10
Traverse (Muskegon):

32-32.9	$1.25	37-37.9	$1.50
33-33.9	1.30	38-38.9	1.55
34-34.9	1.35	39-39.9	1.60
35-35.9	1.40	40-40.9	1.65
36-36.9	1.45	41-41.9	1.70

(Posted by Pure Oil Co.)

Midland, Midland County $1.70

CENTRAL STATES FIELDS

Posted by Ohio Oil Co.

Effective May 21, 1929

Wooster	$1.90	Princeton	$1.75
Lima	1.80	Illinois	1.75
Waterloo	1.20	Plymouth	1.28
Indiana	1.57	West Kentucky	1.83

CANADIAN CRUDE

Posted by Imperial Oil Refineries, Ltd.

Petrolia $2.20
Oil Springs 2.27

OKLAHOMA, KANSAS and NORTH TEXAS
Prices of Prairie Oil & Gas Co.

(In Oklahoma, Kansas, North and East Central Texas)

Effective May 20, 1929

Below 25	$0.85	35-35.9	$1.40
25-25.9	0.90	36-36.9	1.45
26-26.9	0.95	37-37.9	1.50
27-27.9	1.00	38-38.9	1.55
28-28.9	1.05	39-39.9	1.60
29-29.9	1.10	40-40.9	1.65
30-30.9	1.15	41-41.9	1.70
31-31.9	1.20	42-42.9	1.75
32-32.9	1.25	43-43.9	1.80
33-33.9	1.30	44 and above	1.85
34-34.9	1.35		

Humble Oil & Refining Co. Prices

(Ranger, North Texas, Mexia, Powell, Boggy Creek, Richland, Wortham, Lytton Springs, Currie, Moran and Nocona crudes all in Texas.)

May 20, 1929, same schedule as Prairie in above fields.

Magnolia Petroleum Co.

(In Oklahoma, Kansas and North and East Central Texas)

May 20, 1929, Magnolia posted in above fields and in Panola Co., same schedule as Prairie, except these grades:

Below 26	$0.70	29-29.9	$0.95
26-26.9	0.75	30-30.9	1.05
27-27.9	0.85	31-31.9	1.15
28-28.9	0.90		

May 20, 1929, Glasscock, Crane, Upton, Winkler, Howard and Mitchell Counties same prices as Humble's postings in West Texas which see:

Iatan district $0.93
Corsicana heavy 0.80
Luling 0.90
Mirando 0.90

Carter Oil Co.

(Oklahoma and Kansas)

May 20, 1929, same schedule as Prairie except Carter does not post oil below 25.

PANHANDLE, TEXAS
Humble Oil & Refining Co.

Effective May 20, 1929

Hutchinson and Carson Counties:

Below 32	$0.90	38-38.9	$1.25
32-32.9	0.95	39-39.9	1.30
33-33.9	1.00	40-40.9	1.35
34-34.9	1.05	41-41.9	1.40
35-35.9	1.10	42-42.9	1.45
36-36.9	1.15	43-43.9	1.50
37-37.9	1.20	44 and above	1.55

Wheeler County:

Below 30	$0.90	37-37.9	$1.30
30-30.9	0.95	38-38.9	1.35
31-31.9	1.00	39-39.9	1.40
32-32.9	1.05	40-40.9	1.45
33-33.9	1.10	41-41.9	1.50
34-34.9	1.15	42-42.9	1.55
35-35.9	1.20	43-43.9	1.60
36-36.9	1.25	44 and above	1.65

Gray County:

Below 29	$0.90	37-37.9	$1.35
29-29.9	0.95	38-38.9	1.40
30-30.9	1.00	39-39.9	1.45
31-31.9	1.05	40-40.9	1.50
32-32.9	1.10	41-41.9	1.55
33-33.9	1.15	42-42.9	1.60
34-34.9	1.20	43-43.9	1.65
35-35.9	1.25	44 and above	1.70
36-36.9	1.30		

Above prices met by The Texas Co. and Magnolia on May 20.

WEST TEXAS
Humble Oil & Refining Co.

Effective May 20, 1929

Winkler, Crane, Upton, Crockett, Howard and Pecos Counties, also Lea County, N. Mex.:

Below 25	$0.70	25-25.9	$0.74
26-26.9	$0.78	32-32.9	$1.02
27-27.9	0.82	33-33.9	1.06
28-28.9	0.86	34-34.9	1.10
29-29.9	0.90	35-35.9	1.14
30-30.9	0.94	36 and above	1.18
31-31.9	0.98		

May 20, 1929, The Texas Co. posted same prices as Humble in Crane, Upton, Pecos and Winkler., and Magnolia in Crane, Upton, Winkler, Glasscock, Howard and Mitchell.

SOUTHWEST TEXAS
(Posted by Humble Oil & Refining Co.)

Effective May 20, 1929

Mirando $0.90
Salt Flat 1.25

NORTH LOUISIANA—ARKANSAS FIELDS
Prices of Standard Oil Co. of Louisiana

Caddo, Homer, Haynesville, Bull Bayou, El Dorado Crichton, De Soto and **Cotton Valley.

Effective May 22, 1929

Below 28	$1.00	36-36.9	$1.45
28-28.9	1.05	37-37.9	1.50
29-29.9	1.10	38-38.9	1.55
30-30.9	1.15	39-39.9	1.60
31-31.9	1.20	40-40.9	1.65
32-32.9	1.25	41-41.9	1.70
33-33.9	1.30	42-42.9	1.75
34-34.9	1.35	43-43.9	1.80
35-35.9	1.40	44 and above	1.85

**Cotton Valley, below 36, $0.85. Beginning with 36-36.9, same schedule as above.

Smackover, below 24 ..... $0.85
do 24 and above 1.00
Bellevue 1.30
*Urania, La 1.10
†East El Dorado 0.75

*Posted by Louisiana Oil Refining Corp.
†Posted by Magnolia Petroleum Co.

May 20, The Texas Co. same schedule in Louisiana as Standard, plus these grades: 24-24.9, $0.85; 25-25.9, $0.90; 26-26.9, $0.95; 27-27.9, $1.00.

May 22, Magnolia, Atlantic, Shreveport-Eldorado Pipe Line, Louisiana Oil, and Gulf Companies met Standard schedule in Louisiana-Arkansas fields.

STEPHENS, ARKANSAS
Louisiana Oil Refining Corp., and Atlantic Oil Producing Co.

Effective May 22, 1929

Below 28	$0.90	30-30.9	$1.02
28-28.9	0.94	31-31.9	1.06
29-29.9	0.98	32 and above	1.10

GULF COASTAL
Posted by Humble Oil & Refining Co.

Effective May 20, 1929

Grades A	$1.30	29-29.9	$1.30
Grades B:		30-30.9	1.33
Below 25	$1.15	31-31.9	1.36
25-25.9	1.18	32-32.9	1.39
26-26.9	1.21	33-33.9	1.42
27-27.9	1.24	34-34.9	1.45
28-28.9	1.27	35 and above	1.48

Fields classified as A and B are Spindletop, Goose Creek, Hull, Liberty, Sour Lake, West Columbia, Orange, Boling, Pierce Junction, Sugarland and Raccoon Bend. All other fields are Grades A only.

Motor Car Production Up 47 Per Cent

NEW YORK, June 21.—American automobile manufacturers, who entered 1929 with a program calling for the record breaking production of 5,000,000 passenger cars and trucks during the year, have so far exceeded their most optimistic expectations, according to Ray B. Prescott in Sales Management magazine.

"So far this year production has shown a 47 per cent increase over the same period of last year, and as retail sales have increased 40 per cent there has been little excess of cars in the hands of the dealers," says Mr. Prescott. "A contributing factor that has helped to make this record possible is that exports have increased 50 per cent.

"To date the industry has still to show any tangible signs of experiencing any drastic curtailments in the near future, or anything more than the normal seasonal decline during the last half of the year."

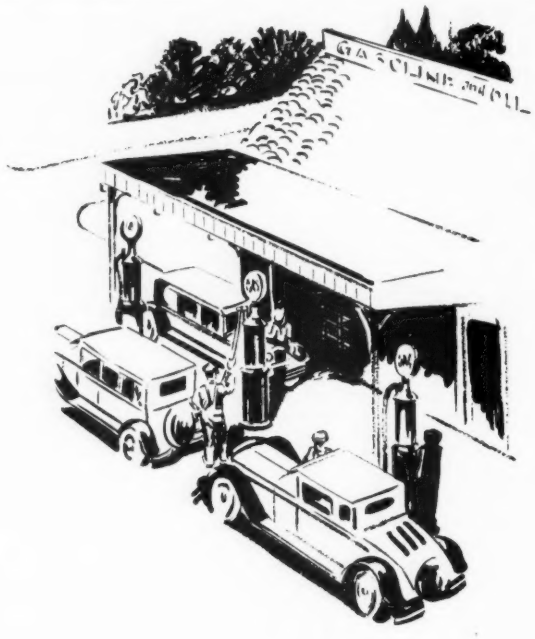
The greater part of this record breaking production, however, can be traced to the change in models made by Ford, Mr. Prescott points out. The lapse in time between the end of production of the old style Ford and the beginning of production of the new, plus the fact that there are still 7,000,000 old Fords to be replaced within the next year or two leaves an abnormal market for lower priced cars, he shows.

No further great strides in the volume of production under normal conditions can be expected, the expert points out.

"The industry has now reached its period of stability, a period in which its yearly growth is going to approximate the annual growth of the country," his Sales Management article says. "Production will continue to grow, but at a decreasing rate. It is a period characterized by keen competition and general absence of huge profits, making it imperative to attain the highest degree of efficiency in production and sales efforts."

Crude Price Changes

TULSA—On June 20 Prairie Oil & Gas Co. announced that retroactive to June 10 it will buy crude oil in the Texas Panhandle at prices posted by the Humble Oil & Refining Co. in that district, which prices see in the crude price table on page 135 of this issue.



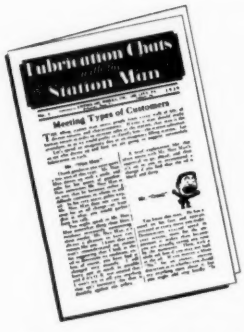
The proof of the pudding

THE constant stream of customers into a gasoline station means but one thing. Those customers must be satisfied; they must be getting their money's worth.

A busy gas station is a money-maker, but a busy gas station which in appearance is unkept and sloppy, and which does not carry quality merchandise, is an exception to the rule and we believe very hard to find.

Penn-Empire has devised a new merchandising plan to increase your sales and profits. This new plan tells you how to sell more oil, instructs your salesmen in the art of selling, and puts your stations on a new profit making basis.

If you want to build up a bigger business write for our complete story today.



These periodic bulletins tell the station attendant how to sell more oil, grease and gasoline! Do you want your men to get these helps?

PENN EMPIRE
100% PURE
PENNSYLVANIA
OIL

Penn-Empire is 100% Pure Penna. Oil—Straight still run — Sharples Processed — Redistilled.

EMPIRE OIL WORKS, INC.
Oil City, Pa.
Refineries: Reno, Pa. and Tidioute, Pa.

PENN-EMPIRE

MOTOR OILS AND GREASES

"Speed With Safety"

Crude Oil Prices (in Effect June 24, 1929)

(Crude prices for the whole year in OIL PRICE HANDBOOK published annually)

GULF COASTAL

Prices of The Texas Co.

Effective May 20, 1929

Grades A	$1.30	*Grades B	$1.15
‡Grades B (light crude):			
35-35.9	$1.49	40-40.9	$1.69
36-36.9	1.53	41-41.9	1.73
37-37.9	1.57	42-42.9	1.77
38-38.9	1.61	43-43.9	1.81
39-39.9	1.65	44 and above	1.85

*Grades B include all heavy crudes which do not meet tests for Grades A or for Gulf Coast light crude.

‡The Texas Co.'s gravity and price schedule on all below 35° is same as Humble's postings on Grades B.

ROCKY MOUNTAIN FIELDS

Prices of Ohio Oil Co., and Midwest Refining Co.

(Salt Creek prices effective May 20, 1929)

‡Salt Creek 29-29.9	$1.10
" " 30-30.9	1.15
" " 31-31.9	1.20
" " 32-32.9	1.25
" " 33-33.9	1.30
" " 34-34.9	1.35
" " 35-35.9	1.40
" " 36-36.9	1.45
" " 37 and above	1.50
Elk Basin	1.65
Grass Creek light	1.65
Big Muddy	$1.43
Lance Creek	1.68
Rock Creek	1.40
Mule Creek	1.20
Rex Lake	1.10
‡Osage	1.65
‡Cat Creek, Mont.	1.65
Sunburst, Mont.	1.75
‡Hogback, N. Mex.	1.70
Artesia, N. Mex.	1.08

‡Posted by Midwest Refining Co. Midwest also buys Grass Creek light and Elk Basin.

CALIFORNIA

***Standard Oil Co. of California**

Gravity	Signal Hill Seal Beach Alamitos Heights Huntington Beach	Inglewood Torrance	Olinda-Brea Canon Richfield	Athens-Rosecrans Dominguez	Elwood Terrace	Whittier La Habra	Coyote Hills	Santa Fe Springs	Newhall McKittrick †Kern River	Midway Sunset Buena Vista & Elk Hills	Lost Hills	Coalinga	Wheeler Ridge	Montebello	Kettleman Hills	*Santa Maria (Orcutt)	*Ventura
14-14.9	$ .70	$ .70	$ .70	....	....	$ .70	$ .70	....	$ .50	$ .50	$ .50	$ .50	$ .50	$ .70	....	$ .65	$ .70
15-15.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
16-16.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
17-17.9	.70	.70	.70	....	....	.70	.70	....	.50	.50	.50	.50	.50	.70	....	.65	.70
18-18.9	.75	.75	.75	....	....	.75	.75	....	.50	.56	.56	.56	.56	.70	....	.70	.75
19-19.9	.80	.80	.80	....	....	.80	.80	....	.50	.62	.62	.62	.62	.75	$1.65	.70	.80
20-20.9	.85	.85	.85	....	....	.84	.84	....	....	.68	.68	.68	.68	.80	for	.70	.85
21-21.9	.89	.89	.89	....	....	.88	.88	.89	....	.74	.74	.74	.74	.85	55°	.86	.86
22-22.9	.93	.93	.93	....	....	.91	.91	.92	....	.80	.80	.80	.80	.90	gravity	.87	.87
23-23.9	.97	.97	.97	....	....	....	.94	.95	....	.85	.85	.85	.85	.95	and	.90	.90
24-24.9	1.01	1.01	1.01	1.01	....	....	.97	.98	....	.90	.90	.88	.88	.98	over	.94	.94
25-25.9	1.05	1.05	1.05	1.05	....	....	1.00	1.01	....	.95	.95	.91	.91	1.01	....	.98	.98
26-26.9	1.09	1.09	1.09	1.09	....	....	1.04	1.04	....	1.00	1.00	.94	.94	1.04	....	1.02	1.02
27-27.9	1.13	1.13	1.13	1.13	....	....	1.08	1.07	....	1.05	1.05	.98	.97	1.07	....	....	1.06
28-28.9	1.17	1.17	1.17	1.17	....	....	1.12	1.10	....	1.10	1.10	1.02	....	1.10	....	....	1.10
29-29.9	1.21	....	1.21	1.21	....	....	1.16	1.15	....	1.16	1.16	1.06	....	1.13	....	....	1.14
30-30.9	1.25	....	1.25	1.25	....	....	1.20	1.20	....	1.22	1.22	1.10	....	1.16	....	....	1.18
31-31.9	1.30	....	....	1.30	....	....	....	1.25	....	1.28	1.28	1.14	....	....	....	....	1.23
32-32.9	1.35	....	....	1.35	....	....	....	1.30	....	1.34	1.34	1.18	....	....	....	....	1.28
33-33.9	....	....	....	1.41	....	....	....	1.35	....	1.40	1.40	1.22	....	....	....	....	1.34
34-34.9	....	....	....	1.47	$1.16	....	....	1.40	....	....	1.46	1.26	....	....	....	....	....
35-35.9	....	....	....	1.53	1.22	....	....	1.45	....	....	....	1.30	....	....	....	....	....
36-36.9	....	....	....	1.59	1.28	....	....	1.50	....	....	....	....	....	....	....	....	....
37-37.9	....	....	....	1.65	1.34	....	....	1.55	....	....	....	....	....	....	....	....	....
38-38.9	....	....	....	1.71	1.40	....	....	1.60	....	....	....	....	....	....	....	....	....
39-39.9	....	....	....	1.77	1.46	....	....	1.65	....	....	....	....	....	....	....	....	....
40-40.9	....	....	....	1.83	1.52	....	....	....	....	....	....	....	....	....	....	....	....
41-41.9	....	....	....	1.89	1.58	....	....	....	....	....	....	....	....	....	....	....	....
42-42.9	....	....	....	1.95	1.64	....	....	....	....	....	....	....	....	....	....	....	....

*Santa Maria and Ventura postings are by Union Oil Co. Union Oil Co. posts same prices in all above fields as Standard except it does not post prices in Wheeler Ridge, Whittier, La Habra, Newhall and Kettleman Hills. Standard does not contract for crude testing 11-13.9 gravity, but pays 45c a barrel when purchased.

†Kern River down to 12° gravity is 50c; 11-11.9 is 45c.

REFINERS' and COMPOUNDERS' SUPPLIES

Following are average market prices for materials used by refiners and compounders effective on the date shown.

Refiners' Supplies

	June 24	June 17
Soda Ash light 58% bags, cwt.	$1.32	$1.32
Silicate of Soda 60 deg. drums, cwt.	$1.55	$1.55
Silicate of Soda 40 deg. tank cars, cwt.	$0.60	$0.60
Silicate of Soda 40 deg. drums cwt.	$0.80	$0.80
Sal Soda wks.	$0.90-1.00	$0.90-1.00
Caustic Soda 76% solid, cwt.	$2.90	$2.90
Sulfuric Acid 60 deg. tank cars, f.o.b. shipping point per ton	$11.00	$11.00
Oleum 20%, fuming sulfuric, tank cars, wks.	$18.50	$18.50
Sulfur, flowers of, cwt.	$3.50-4.50	$3.50-4.50
Liquid Chlorine, tank cars, wks. lb.	3.50–5.00	3.50–5.00

Compounders' Supplies

	June 24	June 17
Vegetable Oils		
Linseed carloads, spot, lb.	10.40	10.40
Tanks, spot	9.60	9.60
Soya Bean, Tanks, coast, lb.	9.625	9.625
Oleic Acid		
Distilled, tanks, lb.	9.25	9.25
Distilled, bbls. lb.	10.375	10.375
Saponified, tanks, lb.	9.50	9.50
Saponified, bbls. lb.	10.625	10.625
Lard Oils		
Prime Winter Strained, lb.	15.00	15.00
Extra Winter Strained, lb.	13.00	13.00
Extra, lb.	12.625	12.265
Extra No. 1, lb.	12.00	12.00
No. 1, lb.	11.75	11.75
No. 2, lb.	11.50	11.50
Tallow oil, lb.	10.75	10.75
Neatsfoot Oil		
Pure, bbls. lb.	13.50	13.50
Extra, bbls. lb.	12.25	12.25
No. 1 bbls. lb.	12.00	12.00
Cold Pressed, lb.	13.75	13.75
Fish Oils		
Menhaden Oil		
Light Pressed, gal.	71	71
Light Pressed, tank cars, N.Y. gal.	65	65
White bleached, gal.	77	77
Yellow bleached, gal.	73	73
Whale, extra winter bleached, gal.	82	82
Naval Stores		
Steam distilled turpentine, N. Y., gal.	51	51
Steam distilled turpentine, Savannah, gal.	46	46
Gum turpentine, N. Y., gal.	54.00	54.00
Gum turpentine, f.o.b. cars Savannah, gal.	50	50
Wood Rosin F, N. Y., bbl.	$7.30	$7.30
Wood Rosin F, Savn'h, bbl.	$6.50	$6.50
Gum Rosin B, N. Y., bbl.	$7.50	$7.50
Gum Rosin B, f.o.b. cars Savannah, bbl.	$6.80	$6.80
Rosin oil, pure, gal.	61	61
Rosin oil, compounded, gal.	50	50
Pine Tar		
Kiln burnt, bbl.	$13.00–14.00	$13.00–14.00
Retort, bbl.	$13.50–14.50	$13.50–14.50
Alcohol		
Denatured Formula 5, in bbls., per gal.	57–64	57–64

Grease Predicted as Future Auto Engine Lubricant

CLEVELAND, June 22

THE grease predicted for use in the near future in internal combustion engines instead of oil, about which J. L. Lyons, Damascus Mfg. Co., Cleveland, told the West Virginia Oil Marketers Association at Charleston last week, is similar to some nonchatter Ford oils. Its body is like that of an oil but it bears the technical name of grease because it contains a soap—mineral soap in this application.

"I speculated on the possibility of grease being used in place of oil for lubrication of internal combustion engines," Mr. Lyons explained in his address after he had mentioned this application of grease in telling what the grease market holds out for the petroleum marketer.

"A certain eastern oil marketer of keen perceptions discovered the remarkably good mechanical conditions in the engines of Model T Fords that had been using an oil compounded with metallic soap for nonchatter purposes, after thousands of miles of travel. He concluded it was the result of the increased viscosity of the oil at higher temperatures induced by the absorption of the metallic soap.

"If this oil, which is technically grease and not oil, was beneficial to the Model T engine, why would it not be just as efficient in other gas engines? The marketer began to sell the same oil for general use in his service stations with such remarkable results that all of his oils are so compounded and, I understand, are gaining vogue on the eastern seaboard.

"The particular soap used in this case was aluminum stearate or aluminum oleate, but the unfavorable aspect of this grease or compound is the instability of the increased viscosity when the oil is kept unused for any great length of time.

"Experiments are being carried on in a number of laboratories to discover a soap that will be absorbed in mineral oil, thus boosting to an unbelievable figure its viscosity at 210 or even 300, which viscosity will not fall down, but remain fixed. I haven't the least doubt that such a base will be discovered, and in the immediate future, too. When this is a fact, we will be selling grease instead of oil to the automotive trade for Webster defines grease as any fatty material, and that's what we make when we add saponified or plain fat to mineral oil.

"I have made a lot of experiments along this line, too numerous to mention now, but nothing has resulted yet in conclusiveness, although encouraging for the continuance of the experiments."

Blind Pump False Alarm Frightens Chicago

CHICAGO, June 22.—A false alarm, to the effect that all the blind gasoline vending pumps in Chicago would have to be replaced by visible pumps or equipped with visible attachments by July 1, was circulated in the city last week. Notices were sent out to about 5000 garages and service stations, leaving that general impression.

The rumor was heralded in the local press, immediately following the National Conference on Weights and Measures in Washington, D. C., whereas M. K. Kimball read a paper by E. N. Smith, manager of the American Automobile association, charging that the American public is being robbed of $20,000,000 a year by service station men giving short measure.

It was not explained in the press why a visible pump is less likely to give short measure than a blind one, or why the attachment of a visible contrivance to a blind pump would make it more accurate. However the Chicago Tribune of June 13 and the Chicago Evening Post of June 11 helped to give the oil dealers a scare. Here is what the Post said in part:

"Beginning July 1 every gallon of gasoline sold in Chicago must be visible to the purchaser before it enters the tank of the automobile. It is expected thousands of dollars will be saved annually by automobile owners by this regulation which will put an end to cheating service men."

Of course the oil men knew the National Conference on Weights and Measures not to be a legislative body, and they so advised their dealers who besieged them with telephone calls. Dan Serritella, city sealer, told some of the oil men that nothing radical would be done as a result of the conference and called the press reports erroneous.

RICHMOND, Va., June 22.—Georgia is in the throes of another road bond fight. Repeated efforts have been made in Georgia to secure approval of an issue of $100,000,000 in road construction bonds.

Missouri Legislature Kind To Our Industry

KANSAS CITY, June 22.—The Missouri legislature this spring was kind to the oil industry Geo. S. Allee, president of the Missouri Oil Men's Association, told his members in a recent bulletin. The one bill sponsored by the association was adopted, and all adverse legislation was killed or died on the calendar.

Reduction of penalty on delinquent gasoline tax was obtained in house bill 177. The penalty will be 5 per cent each calendar month accumulative to a maximum of 25 per cent. The old measure provided a flat penalty of 25 per cent.

Another section of this bill provides refund of taxes paid on fuel destroyed by lightning, fire, storm, breakage, theft, or other extraordinary casualty or contingency. Under the old law a refund was obtainable only in case of lightning, fire or flood.

A third section provides that the state inspector may waive the making of statements or reports by dealers where the tax is collected and paid by the distributor. This will relieve dealers in the interior of the state, but may not be effective in the border counties. This measure becomes effective Sept. 1.

The bill providing a $10,000 bond to be posted by each distributor as a guarantee of payment of gasoline tax was killed in committee.

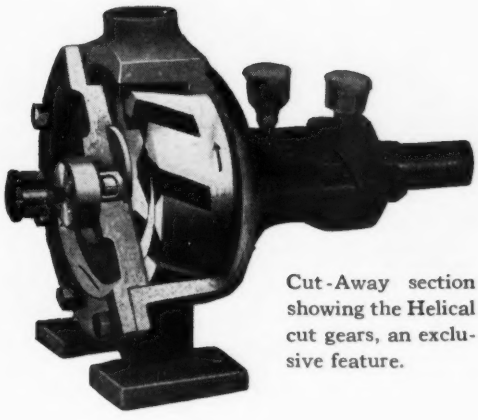
Louisiana Battenfeld Co. Is Reorganized

NEW ORLEANS, June 21.—The International Lubricant Corp., is the new name of the Battenfeld Grease & Oil Co. (Louisiana), Inc., with headquarters here. The interests formerly held by J. R. Battenfeld, A. J. Daniel, B. B. Boulware, and the Battenfeld Grease & Oil Co., all of Kansas City, Mo., have been acquired by others already interested in that business.

A modern grease plant will be built in New Orleans by the International company for the manufacture of automotive and industrial lubricants. For the present, carload orders will be shipped from Kansas City or Cleveland, and less than carload lots from New Orleans as in the past.

Officers of the International company are: W. H. Saunders, Jr., president and treasurer; E. E. Linthicum, vice president; and H. M. Fraser, vice president and secretary. Offices remain in the Canal Bank Bldg., New Orleans.

Pumps with Helical Cut Gears Run More Smoothly —And Last Longer



Cut-Away section showing the Helical cut gears, an exclusive feature.

IT is very generally accepted that a rotary pump is preferable to a reciprocating pump for transferring large quantities of liquids at low power cost. In a reciprocating (piston type) pump it takes extra power to start the load at the beginning of each piston stroke. In a rotary pump when the liquid is started it is carried around a part of a circle. There is no stopping and starting but an even continuous flow. It is easy to understand why it takes less power and every mechanic understands, too, that a non-fluctuating load saves the motor.

The Perfection is the only rotary pump in which the Helical gear principle is embodied. The pump mechanism is extremely simple, with only two moving parts, the helical internal gear rotor and the helical idler gear or pinion. The teeth in the idler pinion intermeshing with the teeth in the rotor act like a series of pistons in rotating cylinders, sucking the liquid in the intake opening on the side, carrying it around and discharging it through the outlet at the top. (See cut-away illustration).

THE Helical shape of the gears prevents back lash and is preferable to the spur gear because it runs more quietly and smoothly. With helical gears there is not the shocking action and strain on the pump that is produced by the straight-on mesh of spur gears. The teeth of the Rotor in the Perfection Pump cut through the liquid on an angle with a shearing cut instead of head on.

The Perfection Rotary Pump is made in sizes from 3 to 90 gallons per minute. It is ideal for unloading oil or gas. Replace your old unloading pump with a Perfection. It will save you time, money and power, and will give you satisfactory service.

Write for Bulletin No. 271 and prices. The Perfection Rotary Pump has some special features that are well worth looking into.

Perfection Manufacturing Company
2194 East Hennepin Avenue,
Minneapolis, Minn.

Type 6—A Twin Gear Drive unloading Pump with Motor.

PERFECTION ROTARY PUMPS

Transactions in Oil Shares on New York Stock Exchange

1928 High	1928 Low	1929 High	1929 Low	Listed Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended June 22 Sales	First	High	Low	Last	Change
43⅞	27¼	42⅝	22½	(sh) 922,075	N.P.	Amerada Corp.	50cQ	Apr. 30, 29	4,500	26	26	24½	24½	— 1½
85	51¼	64¾	43⅛	(sh) 209,180	N.P.	American Republics Corp.	....	.....	5,500	49	51	46	46¾	— 2¼
5 ⅜	37½	47¼	40	$56,000,000	$25	Associated Oil	50cQ	Mar. 31, 29	40	...	44½	42½	44	+ 1½
62½	50	72¼	53½	50,000,000	25	Atlantic Refining	‡25cQ	June 15, 29	247,000	70⅜	*72¼	69¼	70⅝	+ 1⅜
118¼	114½	117⅝	114	20,000,000	100	do pfd.	$1.75Q	May 1, 29	.....	.....	.....	.....	.....	.....
53	20	49⅞	38⅛	47,261,125	25	Barnsdall Corp. A	50cQ	May 6, 29	36,400	41⅜	42⅞	40½	41	— ⅜
51⅛	20	49	38⅛	300,525	25	do B	50cQ	May 6, 29	.....	.....	.....	.....	.....	.....
24½	12¼	29½	20	(sh) 956,075	N.P.	Beacon Oil	....	.....	48,100	27⅛	*29½	27⅛	28¼	+ 1½
36	25¼	30	25	$51,524,150	$25	California Petroleum	....	Jan. 1, 29	50	25	25	†25	25	— 2
94⅛	68	87⅜	63	21,031,400	100	General Asphalt	....	.....	15,200	84½	85½	81⅛	82½	— 1⅜
141	110⅛	131	104½	6,628,200	100	do pfd.	$1.25Q	June 1, 29	3,400	127½	131	125½	127½	— ⅜
167	79	107	70½	25,000,000	100	Houston Oil	....	.....	1,200	78	83	78	78½	+ 2¼
38⅜	21¾	39¼	30	(sh) 1,333,157	N.P.	Independent Oil & Gas	50cQ	Apr. 30, 29	17,300	36	36½	34⅝	34⅝	— 1⅛
39⅜	9	52⅝	29	$4,299,190	$10	Indian Refining	....	Dec. 15, 20	23,400	45½	47⅜	43	44½	— ⅝
37¼	8½	48¾	28	4,550,110	10	do ctfs.	....	.....	25,500	42½	44½	40¼	41⅝	— 1
185	140	165	160	1,977,700	100	do pfd. new	$1.75Q	Apr. 1, 29	.....	.....	.....	.....	.....	.....
39⅛	27⅝	38⅜	26	3,992,387	N.P.	Lago Oil & Transport	....	May 2, 27	38,900	34½	*38⅜	33	33½	— ½
19¾	9⅜	18	12¾	(sh) 1,187,298	N.P.	Louisiana Oil Refining	....	.....	6,200	13	13	12⅝	12¾	— ¼
96	78	100	89	$4,000,000	$100	do pfd.	$1.62½	May 15, 29	10	90½	90½	90½	90½	0
25½	12½	18½	12	(sh) 330,000	N.P.	Maracaibo Oil	....	.....	100	13½	14	13½	13½	— ½
49¾	33	47⅛	33⅛	(sh) 2,316,897	N.P.	Marland Oil Co.	....	Mar. 31, 27	34,800	34⅞	36¾	34¼	36	+ 1⅛
360	250	295	205	$45,942,800	$100	Mexican Petroleum	‡$3Q	Apr. 20, 29	10	210	210	210	210	0
...	...	...	...	12,000,000	100	do pfd.	$2Q	Apr. 20, 29	.....	.....	.....	.....	.....	.....
73	45⅛	69⅜	36¼	(sh) 995,500	N.P.	Mexican Seaboard	....	Nov. 15, 24	60,300	38⅜	45	38⅝	44¼	— 5¾
44½	25⅛	39⅞	30½	(sh) 1,857,461	N.P.	Mid-Continent	50cQ	May 15, 29	13,400	34	34⅞	33⅝	34	+ ½
120½	103¼	121	120¼	$6,718,000	$100	do pfd.	$1.75Q	June 1, 29	.....	.....	.....	.....	.....	.....
7⅜	2⅜	5⅛	3½	23,849,720	10	Middle States	....	July 1, 23	14,500	3⅞	3⅞	†3½	3⅝	— ¼
5⅞	1½	3½	2¼	5,950,500	10	do ctfs.	....	.....	3,100	2¾	3	2½	2½	— ¼
2¼	1	1½	1	(sh) 3,500,000	N.P.	Pacific Oil	....	.....	17,100	1	1⅛	1	1	0
55½	38¼	63	41⅛	$50,000,000	$50	Pan American P. & T.	....	Oct. 20, 27	1,000	56	57	54	54	— 2⅛
58⅞	37¾	66¾	40½	121,101,400	50	do B	....	Oct. 20, 27	166,800	59⅜	61⅝	56⅛	58½	— 1½
28⅜	15½	17½	14	(sh) 400,000	N.P.	Pan American Western B	....	Jan. 30, 27	400	14	14½	14	14½	0
21¾	11½	15¼	9½	(sh) 199,370	N.P.	Panhandle P. & R.	....	.....	200	9⅝	9⅝	9⅝	9⅝	0
106¼	70	76	47½	$2,935,200	$100	do pfd.	....	July 2, 23	.....	.....	.....	.....	.....	.....
53⅞	35¼	47	37¼	(sh) 2,406,803	N.P.	Phillips Petroleum	37½cQ	Apr. 1, 29	16,800	38¾	38⅞	37½	37⅞	— ⅜
5¼	½	3⅜	2	$29,622,925	$25	Pierce Oil	....	.....	1,900	2¼	2¼	2⅛	2⅛	— ⅛
50	16¼	51½	30	15,000,000	100	do pfd.	....	Feb. 1, 22	1,300	40	40	39½	40	0
6⅝	3½	5⅞	4¼	(sh) 2,500,000	N.P.	Pierce Petroleum	....	.....	5,100	4½	4½	†4¼	4⅝	+ ⅛
64⅜	59½	65⅜	55	$60,636,450	$25	Prairie Oil & Gas	....	Aug. 31, 27	12,100	57½	58⅜	56⅜	56⅜	— ½
...	...	61⅞	53⅝	101,250,000	25	Prairie Pipe Line	‡75cQ	Mar. 31, 29	7,300	59	60⅛	59	59⅞	+ 1¼
29⅞	16	25⅞	18¼	37,450,850	50	Producers & Refiners	....	Sept. 15, 23	500	18⅜	19¼	18¼	18¼	— 1⅛
49⅝	41	45⅝	38⅛	2,845,350	50	do pfd.	....	May 1, 25	110	43⅝	43¾	40⅝	40⅝	— 1⅞
31¼	19	30¾	23½	75,959,250	25	Pure Oil Co.	37½cQ	June 1, 29	15,700	27¾	28½	27	27¼	— ½
119	108	115½	111½	13,000,000	100	do 8% pfd.	$2Q	Apr. 1, 29	160	112½	112½	111½	112	— ½
56	23½	49⅝	40	47,127,725	25	Richfield Oil	50cQ	May 15, 29	9,900	42	43¼	41¼	41⅜	— ⅛
...	...	42½	28½	(sh) 1,200,000	N.P.	Rio Grande Oil Co.	‡$1S.A.	Jan. 25, 29	16,200	30½	31½	29¼	29½	— ⅝
64	44⅝	55¾	31⅝	(sh) 546,646	$13.40	Royal Dutch N. Y. shares	$1.336	Feb. 8, 29	4,400	54	54¾	53½	53½	— 1
57½	39⅜	55¾	43	(sh) 65,203,000	£2	Shell Transport & T.	96.4c	Feb. 8, 29	.....	.....	.....	.....	.....	.....
39⅜	23¼	31¾	26	12,254,979	N.P.	Shell Union Oil	35cQ	Mar. 31, 29	27,800	27¾	28⅛	26½	26⅝	— 1⅜
27¼	18⅛	37¼	18¼	$8,357,280	$10	Simms Petroleum	40cQ	June 15, 29	29,100	32¾	33½	30¼	31	— 1⅝
46⅜	17⅜	45	36	5,494,095	N.P.	Sinclair Consolidated	‡50cQ	Apr. 15, 29	151,600	37¾	38⅜	36¼	36½	— 1¼
110	102½	111	107¾	$16,025,200	$100	do pfd.	$2Q	May 15, 29	200	109	109	109	109	0
42⅝	25	46⅛	32⅞	27,396,590	25	Skelly Oil Co.	50cQ	June 15, 29	22,900	41½	42¼	38¼	40⅜	— ⅜
80	53	81⅞	64	(sh) 13,016,435	N.P.	S. O. California	62½cQ	June 15, 29	41,600	74	75¾	72	73⅛	— ¼
59⅜	37¾	62⅝	48	$612,095,850	$25	S. O. New Jersey	‡25cQ	June 15, 29	69,100	58⅜	58¾	56	56¾	— 1½
45½	28¾	45¾	38⅝	434,094,575	25	S. O. New York	40cQ	June 15, 29	29,100	39¼	40⅜	39	39⅝	+ ⅛
77	31½	68½	57	(sh) 1,297,847	N.P.	Sun Oil	25cQ	June 15, 29	3,900	62⅛	65	62⅛	63	+ 1
110	100	105½	100	$5,000,000	$100	do pfd.	$1.50Q	June 1, 29	40	102½	102½	102½	102½	— ½
14¼	2½	12	7	(sh) 1,304,698	N.P.	Superior Oil Corp.	....	Dec. 20, 20	28,800	8	8¼	7⅝	7¾	— ¼
74¾	50	68¼	57¼	$211,082,925	$25	The Texas Corp.	75cQ	Apr. 1, 29	33,800	62	63¼	60⅝	61¼	— ⅝
26⅜	12⅛	23⅞	16¼	8,380,340	10	Texas Pacific Coal & Oil	2½%	Mar. 20, 29	7,300	17⅜	18½	17⅝	17⅝	— ¼
41½	19⅜	38½	27½	(sh) 2,179,275	N.P.	Tide Water Oil Co.	20cQ	Mar. 31, 29	5,600	37¼	37½	34⅞	35	— 2¼
100⅜	86¾	97½	89¾	$20,321,000	$100	do 5½% pfd.	$1.25Q	May 15, 29	400	95	95⅛	95	95⅛	+ ⅛
25	14¾	23½	17½	(sh) 4,877,976	N.P.	Tide Water Associated	....	Aug. 1, 27	35,400	21⅜	21⅞	19⅝	19⅞	— 1⅝
91¾	81⅞	90	84	$72,989,200	$100	do pfd.	$1.50Q	Apr. 1, 29	1,000	95	85⅞	†84	84⅞	— 1⅛
14½	6¾	13	9	(sh) 3,842,029	N.P.	Transcontinental Oil	....	.....	41,100	11	11⅛	10½	10⅞	0
58	42¾	54½	46	$40,858,375	$25	Union Oil of California	50cQ	May 10, 29	6,500	47⅛	49½	47⅛	49½	+ 2⅛
128¼	110	150¼	121⅞	31,101,200	100	Union Tank Car Co.	$1.25Q	June 1, 29	400	135	142	135	142	+ 1
44⅞	26	42⅞	28½	(sh) 488,359	N.P.	Warner Quinlan	50cQ	Apr. 2, 29	5,700	30⅝	31¾	29¾	31½	+ ⅛
38	20¼	37⅜	30¼	(sh) 490,000	N.P.	White Eagle Oil & Refining	50cQ	Apr. 20, 29	2,400	34⅛	34⅞	33¼	33⅞	— 1
22⅛	17¼	29¾	19½	(sh) 428,967	N.P.	Wilcox Oil & Gas	....	May 10, 28	1,500	21	21¼	21	21¼	+ ⅛

*New High †New Low XEx-dividends ‡Also extras s-Stock Total Sales 1,421,120

Pittsburgh Stock Exchange

Transactions Week Ended June 21, 1929

	Sales	High	Low	Last	Change
Ark. Nat. Gas	4,095	*91½	87⅝	93⅜	+ 1½
do pfd.	2,469	8⅜	8¼	8¼	+ ⅛
Devonian Oil	275	11	10	10	0
Dixie Gas & Util.	625	17	12⅛	17	— ½
do pfd.	110	74¼	70	70	—7½
Lone Star Gas	2,426	*83¼	x79	83¼	+3¾
Waverly Oil Wks. A	300	26	†24½	26	+1
Unlisted					
Col. Gas Rights	818	4⅜	4⅜	4⅜	— ⅛
Lone Star w.i.	5,665	34¼	32½	34¼	+1¾

*New High †New Low xEx dividend

Pittsburgh Curb Market

Transactions Week Ended June 21, 1929

	Sales	High	Low	Last	Change
Ark. Nat. Gas "A"	2,065	9½	9	9½	+ ⅜
Phoenix Oil	500	.50	.50	.50	....

Oil Company Earnings

Year	1928	1927
Shell Transport & Trading	5,447,073	5,412,612

Financial Notes

Mexican Petroleum Co.—All retiring directors re-elected at annual meeting.

Texas Pacific Coal & Oil Co.—A note that appeared in this department in the June 5 issue reported a postponement of the annual meeting because of a lack of a quorum. This was an error in company name as it was the meeting of the Panhandle Producing & Refining Co. that was postponed for the stated reason. The annual meeting of Texas Pacific was held in April.

Paragon Refining Co.—Greatly increased earnings are reported, first quarter net being sufficient to cover dividends on preferred stock and to leave a balance for common stock. In previous years the company has had a deficit the first quarter.

Cleveland Stock Market

June 21	Par Value	Bid	Asked
Canfield Oil Co.	$100	...	140
do pfd.	100	103	...
Fred G. Clark	10	12	15
National Refining	25	36½	...
do pfd.	100	...	x135
Paragon Refining	25	24	25¾
do pfd.	N.P.	x41½	44
do ctfs. of deposit	...	24	25½

xEx dividend.

Youngberg Is District Manager

CHICAGO, June 22.—E. G. Youngberg, for several years buyer for the Wadhams Oil Co. with offices at Chicago and Tulsa is the new district sales manager of the Transcontinental Oil Co.'s Chicago division. He assumes the position left vacant by the resignation of L. E. Thorpe. George K. Homer, who was temporarily in charge of the Chicago office left June 22 to resume his duties at Transcontinental's Tulsa office.

The

STANDARD ANTI-FREEZE

Sold only through
Bona Fide Jobbers - -

U.S. INDUSTRIAL ALCOHOL CO.

Executive Offices: 110 East 42nd Street, New York, N. Y.—Branches in all principal cities
World's largest producers of Denatured Alcohol

Standard Oil Stocks on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Outstanding Capital	Par Value	Stocks	Div. Rate	Last Paid	Transactions Week Ended June 22 Sales	First	High	Low	Last	Change
22⅜	14⅞	18¾	14¼	£4,126,460	£ 1	Anglo-American Oil	36c	June 5, 29	400	14½	15	14¼	14⅝	+ ⅛
21¼	15	18	14½	.....	....	do certificates	36c	June 5, 29	.....	....	....	....	....	.....
20½	14⅜	17	13	.....	£ 1	do cts. non-voting	36c	June 5, 29	300	13¼	14¼	13¼	13¼	— 1⅛
5	1¼	2⅜	1⅛	(ah) 500,000	N.P.	Atlantic Lobos	.....	.....	100	1½	1½	1½	1½	— ⅛
9¾	3¼	4⅛	1½	$10,000,000	$50	do pfd	.....	.....	100	2½	2½	2½	2½	0
56	44½	46½	38	$1,000,000	25	Borne-Scrymser	‡$1S.A.	Apr. 15, 29	200	38	38	38	38	— ¼
76	58	74¼	58⅜	10,000,000	50	Buckeye Pipe Line	‡$1Q	June 15, 29	100	69	69	69	69	+ 1
161	117¼	170¼	140⅛	3,000,000	25	Chesebrough Mfg	‡$1Q	Mar. 31, 29	200	165	167¾	165	167¾	+ 3
23	16	29	17⅛	36,123,350	10	Continental Oil	.....	Dec. 15, 27	29,000	20⅝	21¾	20⅝	21⅛	+ ⅜
17½	9½	11⅜	8	.....	N.P.	Creole Petroleum	.....	.....	8,800	8⅝	8⅞	8⅛	8¼	— ⅜
82	67	75¾	62	1,500,000	50	Cumberland Pipe Line	$1Q	June 15, 29	150	69	69	68	68¼	— ⅜
88	64⅜	70½	59¼	5,000,000	100	Eureka Pipe Line	$1Q	June 1, 29	100	60	62	60	62	+ 1¼
13	4¼	6⅜	5	16,000,000	100	Galena Signal Oil	.....	June 30, 25	.....	....	....	....	....	.....
86	26	90	73½	4,000,000	100	do new pfd	.....	June 30, 26	.....	....	....	....	....	.....
89¾	35	88	73½	2,000,000	100	do old pfd	.....	June 30, 26	.....	....	....	....	....	.....
114¾	59¼	124½	89⅝	73,685,700	25	Humble Oil & Refining	‡30cQ	Apr. 1, 29	3,600	116	116½	113½	115	— 1
290½	176½	340½	285	20,000,000	100	Illinois Pipe Line	$10S.A.	June 15, 29	150	310	311	308	308	— 7
104	56¾	119⅝	88	(ah) 6,605,442	N.P.	Imperial of Canada	12½cQ	June 1, 29	.....	....	....	....	....	.....
....	....	....	....	.....	....	do new	.....	.....	4,300	27¼	27⅞	27	27¼	0
91⅞	74⅜	97	81¼	$5,000,000	$50	Indiana Pipe Line	‡$1Q	May 15, 29	300	95⅛	95¾	95	95	+ ⅛
55	35	65⅛	46⅛	(ah) 7,123,544	N.P.	International Petroleum	25c	Mar. 15, 29	1,700	46¼	48	45½	46⅛	— ¾
32⅜	19⅜	25⅛	21⅜	$6,363,350	12.50	National Transit Co	25cQ	June 15, 29	1,000	23¼	23⅜	22⅝	22¾	0
75	38½	85	72	5,000,000	100	New York Transit	.....	July 15, 26	.....	....	....	....	....	.....
....	....	....	....	.....	....	do new	.....	.....	100	12¾	12¾	12¾	12¾	— ⅛
69	56½	63	52	2,000,000	50	Northern Pipe Line	$2S.A.	Jan. 2, 29	50	52	52	†52	52	— 3
83½	58½	75⅜	64⅛	60,000,000	25	Ohio Oil Co	50cQ	June 15, 29	600	72⅞	73	71⅛	72¼	— ¾
84	28	44½	23⅛	10,000,000	25	Penn Mex. Fuel	75c	Dec. 16, 28	.....	....	....	....	....	.....
220	167	50	39⅛	4,000,000	25	Solar Refining	$1.25S.A.	June 20, 29	300	41	41	39¼	39¼	0
19	12	22½	13	1,000,000	10	Southern Pipe Line	$1	Mar. 1, 29	400	20	20	19¾	20	0
71⅞	36¾	60¼	40⅜	30,000,000	25	South Penn Oil	50cQ	Mar. 31, 29	2,000	52	53½	52	53¼	+ 1¼
102	70	70	62¾	1,750,000	50	South West Pa. Pipe Lines	$1	Apr. 1, 29	10	105	105	105	105	— 3
95⅞	70⅞	103¼	54	348,175,069	25	S. O. Indiana	62½cQ	June 15, 29	12,700	55½	56	55¼	55¾	+ ⅛
27¾	15	21⅞	18	8,000,000	25	S. O. Kansas	.....	June 16, 24	1,300	21½	22	21½	21⅝	— ⅜
49	44	45¼	35⅛	25,654,516	10	S. O. Kentucky new	40cQ	Mar. 31, 29	2,700	37½	38	36⅜	37⅛	+ 1
54⅝	39⅞	50¼	45½	4,649,225	25	S. O. Nebraska	‡62½cQ	June 20, 29	200	47¼	47¼	47	47	— ⅝
134	71	129	110¼	14,000,000	25	S. O. Ohio	62½cQ	Apr. 1, 29	850	123	123	119	121	— ⅜
125	116	124½	115	7,000,000	100	do pfd	$1.75Q	June 1, 29	30	117	117	116¾	116¾	+ ¼
23½	16	18	14	861,466	25	Swan Finch Co	30c	Jan. 15, 29	.....	....	....	....	....	.....
111	72	133¾	105½	126,154,000	25	Vacuum Oil	$1Q	June 20, 29	2,800	115	116	113	116	+ 1

*New High †New Low ‡Also Extras

Independent Oils on New York Curb

1928 High	1928 Low	1929 High	1929 Low	Par Value	Stocks	Transactions Week Ended June 22 Sales	First	High	Low	Last	Change
1½	.53	.72	.375	$ 5	Amer. Cons. Oilfields	11,800	1/16	1/16	†1/16	½	0
9½	3⅛	8⅝	3½	N.P.	Amer. Maracaibo	1,500	3½	4	3½	3⅞	+ ⅜
4½	2¼	5	1⅞	$10	Argo Oil	200	2	2¼	2	1⅛	+ ⅛
3¾	3⅜	9½	3¾	N.P.	Arkansas Nat. Gas	34,600	9⅜	*9½	9⅛	9⅜	0
....	....	9⅜	6¾	N.P.	do A	7,600	9½	9⅝	9⅜	9½	0
....	....	9	7⅞	10	do pfd	200	8¼	8¼	8¼	8¼	0
55	32¾	62	50	N.P.	British American Oil	.....	....	....	....	....	.....
23⅞	3¾	4⅞	2⅝	25c	Carib Syndicate	400	3⅝	3⅝	3¼	3¼	— ⅛
....	....	31½	27¾	N.P.	Cities Service new	264,900	28⅜	*31½	28⅜	31½	+ 2⅝
103½	94½	98½	88⅜	100	do pfd	500	97	97¼	96½	96½	— ⅞
9⅜	8⅞	9¼	8⅞	10	do pref. B	.....	....	....	....	....	.....
97	88½	96	92	100	do pref. BB	.....	....	....	....	....	.....
2¼	1	1½	⅝	1	Colombia Syndicate	3,400	¾	⅞	†⅝	⅞	— ⅛
17¾	9¾	15	6	N.P.	Colon Oil	1,800	8	8	7½	7⅝	— ⅜
8⅞	6¼	11⅛	6¾	10	Consolidated Royal	400	7	7	7	7	0
....	....	67	45	N.P.	Cosden Oil Co	800	68⅞	69	62	63	— 5
3¼	.76	2½	1⅛	N.P.	Crown Central	7,200	1½	1¾	1½	1¾	+ ¼
15	6¾	11¾	8	N.P.	Crystal Oil	.....	....	....	....	....	.....
50	48	51⅛	51⅛	$100	do pfd	.....	....	....	....	....	.....
33½	8⅛	26	14	N.P.	Darby Petroleum	800	15	15⅛	14	14	— 1
13½	7⅞	....	....	....	do trust ctfs	.....	....	....	....	....	.....
2⅞	1	9⅜	2	N.P.	Derby Oil & Refining	18,400	8½	11	8⅜	10¾	+ 2⅜
21⅛	7½	39⅛	20⅞	N.P.	do pfd	.....	....	....	....	....	.....
165	101⅛	189	142⅛	$25	Gulf Oil Corp	2,000	173	178⅞	170	172	— 1
7½	5⅝	7½	4	5	Homaokla Oil	800	4	4⅛	4	4	— ¼
3⅜	1	2⅞	1¼	10	Intercontinetal Pet	24,800	1⅝	1¾	1½	1¾	+ ¼
3	¼	3⅝	1½	N.P.	Kirby Petroleum	.....	....	....	....	....	.....
9⅜	5⅞	6⅛	2⅞	N.P.	Leonard Oil & Dev	1,400	4⅜	5	3⅝	3⅝	— 4⅜
43⅜	20	38⅞	24¾	N.P.	Lion Oil & Refg	700	34	34	32	32½	— ½
69⅛	48⅛	80	67	$25	Lone Star Gas	4,500	79¼	84	77⅞	84	+ 5
1⅞	.50	1⅛	⅜	1	Magdalena Syndicate	200	1/16	1/16	½	9/16	+ 1/16
48½	32	38⅛	21¼	N.P.	Margay Oil	.....	....	....	....	....	.....
40½	40½	....	....	$10	Mexican-Panuco	.....	....	....	....	....	.....
8	2¾	6¾	3⅜	N.P.	Mexico-Ohio Oil	200	4	4	4	4	— ¼
.74	.20	....	....	$10	Mexico Oil	.....	....	....	....	....	.....
....	....	42	15⅞	N.P.	Missouri-Kan. P. L.	3,400	31	33	29⅝	33	+ 1½
1¼	.76	1½	⅞	1	Mountain & Gulf	200	7/8	1	7/8	1	0
28⅛	19½	22⅞	15¼	10	Mountain Producers	3,000	16⅜	16⅜	†15¼	15⅜	— 1
....	....	29⅛	24¾	N.P.	Nat. Fuel Gas (new)	1,300	29⅞	37¼	28½	34⅜	+ 4⅞
5⅝	4¼	5	3½	5	New Bradford	400	3⅞	3⅞	†3½	3½	— ⅜
5½	3	3½	3	10	New England Fuel	.....	....	....	....	....	.....
11⅞	7⅛	9⅜	5½	1	New Mex. & Ariz	300	5⅝	5¾	5⅝	5⅝	— ⅜
15½	11½	24½	16	25	New York Petrol	200	18	18	17⅛	17⅛	— ¾
40	39⅛	....	....	....	North Amer. Oil Cons.	.....	....	....	....	....	.....
13¼	8½	11⅜	8¾	N.P.	North Cent. Texas	100	10⅜	10⅝	10⅜	10⅝	0
....	....	19¼	14⅜	N.P.	Oil Stock, Ltd. A	300	14⅞	14⅞	14½	14⅜	— ⅜
....	....	18¾	15	N.P.	do B	.....	....	....	....	....	.....
26¼	20	23¼	16	N.P.	Pacific Western Oil	200	16½	17	16½	16⅝	+ ⅛
6	2¼	3½	1⅝	N.P.	Pandem	1,000	1⅞	2	†1⅝	1¾	— ¼
15⅝	8½	10¼	6	N.P.	Pantapec	400	6½	9¾	6⅛	6¾	+ ¼
20	10⅝	25½	22½	$25	Paragon Refg. B. ctfs	.....	....	....	....	....	.....
.09	.04	....	....	N.P.	Peer Oil Corp	.....	....	....	....	....	.....
7¾	4⅞	7⅜	4⅜	$10	Pennok Oil	.....	....	....	....	....	.....
....	....	34½	26¾	N.P.	Petroleum Corp	5,700	27⅜	27⅜	†26¾	27	— ¼
5⅜	3⅛	....	....	$5	Pittsburgh Oil & Gas	.....	....	....	....	....	.....
31⅜	26½	30	22½	N.P.	Plymouth Oil	200	23	23	22¾	22¾	— ⅜
18	8	16	11½	25	Red Bank Oil	.....	....	....	....	....	.....
13	4⅛	8½	5	N.P.	Reiter-Foster	1,200	5¼	5¼	5	5	— ¼
31½	23¼	25½	23⅞	$25	Richfield pfd	.....	....	....	....	....	.....
....	....	29	23	....	Root Refining pfd	1,100	24½	25¼	25	25	0
12	4⅜	11	6⅝	N.P.	Ryan Consolidated	300	7	7	6½	6½	— ⅛
7¼	5½	5⅞	3⅛	$10	Salt Creek Cons	100	3⅛	3⅛	3⅛	3⅛	— ⅛
35	23¼	25⅞	17¾	10	Salt Creek Prod	800	19	19⅛	18	18	— 1
3½	1	2½	1⅜	5	Savoy Oil	900	1½	*2½	1½	2½	+ 1⅛
40	27	33⅛	32	25	Shreveport El Dorado	.....	....	....	....	....	.....
....	....	24	18	N.P.	Southland Royalty	1,800	18	18½	17¾	18½	+ ½
....	....	23	15¼	N.P.	Texon Oil & Land new	1,300	16½	17¼	16	17¼	+ ¾
22⅞	13	16⅞	11⅜	$10	Tidal Osage	.....	....	....	....	....	.....
21¼	13⅛	16½	10⅛	10	do not-voting	.....	....	....	....	....	.....
93¾	75	136	80	100	Transcontinental pfd	500	136	*136	135	136	0
74¼	18	70¼	66	10	Venezuela-Mexico	.....	....	....	....	....	.....
9⅛	4⅜	6½	3⅜	5	Venezuelan Petrol	300	3⅞	4	3⅞	4	0
8¼	4⅞	9¼	4⅜	1	Woodley Petroleum	3,700	5⅛	5⅛	†4¾	4⅞	— ⅜
⅜	⅛	5⅜	1⅝	25	Y Oil & Gas	.....	....	....	....	....	.....

*New High †New Low

New York Curb Bonds

Week Ending June 21, 1929

	High	Low	Last	Change
Beacon Oil 6s '36	118⅞	113	116½	+1½
Cities Serv. 5s '66	87½	87	87½	+ ¼
Cities Serv. G. 5½s '42	88	86⅛	86½	—1
Cont. Oil 5¼s '37	94	93	94	+ ½
Empire O & R 5½s '42	89	86¼	86¼	— ¼
Gulf Oil 5s '37	90¼	98¾	99¼	— ¼
Gulf Oil 5s '47	100¼	100	100	0
Indep. Oil 6s '39	114⅞	110⅜	111⅜	+ ⅛
Richfield Oil 5½s '31	100	100	100	0
Richfield Oil of Calif	99⅜	99	99¼	— ¼
Sun Oil 5½s '39	100	100	100	— ¼

Oil Dividends

	Amount	Payable	Stock of Record
Cities Service m	2½c	Aug. 1	July 15
do stock m	½%	Aug. 1	July 15
do pfd. m	50c	Aug. 1	July 15
do pfd. BB m	50c	Aug. 1	July 15
do pfd. B m	5c	Aug. 1	July 15
Darby Pet. q	25c	July 15	July 1
Lion Oil refg. q	50c	July 27	June 28
Louisiana Oil Refg. pfd.	$1.62c	Aug. 15	Aug. 1
Mountain & Gulf q	2c	July 15	June 29
New Bradford Oil q	12½c	July 15	June 29
Pierce Pet. pfd. s. a.	$3	July 1	June 26
Shaffer Oil & Refg. pfd. q.	$1.75	July 25	June 29

New York Bonds

Week Ending June 21, 1929

	High	Low	Last	Change
Assoc. Oil gold 6s	101⅝	101¼	101⅝	+ ⅝
Atlantic Refg. deb. 5s	100⅞	100	100⅞	+ ⅞
Cal. Pet. 5s	96½	96	96	—1
Cal. Pet. 5½s	100	99	100	+1
General Asphalt 6s	105¼	105	105⅞	—1⅛
General Pet. 5s	101⅛	100⅜	100⅜	— ¾
Humble Oil & Refg. 5s	100¼	99¾	99¾	— ¼
Humble Oil & Refg. 5½s	100⅞	100⅝	100⅞	+ ¼
Pan Amer. P & T 7s	104½	104½	104½	— ¼
Pan Amer. P & T 6s	108½	107	107⅝	+ ½
Pan Amer. P & T 6s	94	94	94	0
Phillips Pet. 5¼s	89¼	88¾	89	+ ¾
Pure Oil 5½s	98	97⅜	97⅞	+ ⅜
Shell Union Oil 5s	96½	96	96⅛	— ⅜
Sinclair Con. Oil 7s	102	101	101⅛	— ⅜
Sinclair Con. Oil 6½s	100	99½	99½	— ¼
Sinclair Con. Oil 6s D	99⅛	99	99⅛	+ ⅛
Sinclair Con. Oil Crude 5½s	94⅞	94⅜	94⅞	0
Sinclair Pipeline	94	93½	93½	0
Skelly Oil 5½s	93	92¼	93	— ½
S. O. N. Y. 4½s	95¾	95	95	0
S. O. N. J. 5½s	101⅝	101	101	— ⅜
Union Oil of Calif 6s A	105	105	105	+ ¼
Union Oil of Calif. 5s C	95¼	95	95¼	— ⅝
White Eagle Oil 5½s	100	99½	99½	— ⅛
Trans. Cont. 6½s	98¾	96½	97	—1

Tide Water Exchange Stock Is Listed

NEW YORK, June 22.—Tide Water Associated Oil Co. has listed on the New York Stock Exchange 1,863,509 additional shares of no par capital stock, of which 1,638,509 shares will be used to exchange for outstanding minority shares in the Tide Water Oil Co. and for the conversion of Tide Water preferred stock.

The exchange for Tide Water common will be on a basis of one share of Tide Water for 1¾ shares of Tide Water Associated. The company also will issue 100,000 shares of the additional stocks to a banker and 150,000 shares will be reserved for the management stock plan.

Outstanding stocks of Tide Water Associated Oil Co. on June 10 consisted of 4,900,738 shares of common no-par, 731,645 shares of $100 preferred, and 201,490 shares of $100 par preferred stock of Tide Water Oil Co.

Authorized capital of the company consists of 10,000,000 shares of common, of which 8,490,306 shares have been authorized for listing on New York Stock Exchange; 1,500,000 shares of preferred, of which 768,599 have been authorized for listing, and 252,215 shares of Tide Water Oil Co. preferred, of which the full amount has been authorized for listing.

Statement of Tide Water Associated Oil Co. and subsidiaries as of March 31, 1929, shows total assets of $244,612,489 compared with $249,379,671 on Dec. 31, 1928 and surplus $12,070,307 against $11,615,444. Current assets totaled $66,716,998 and current liabilities $12,271,110 as contrasted with $70,012,960 and $15,736,451 respectively, on Dec. 31, 1928.

Marketer Gets Road Fund

LOGAN, O.—R. R. Lanning, famed "Know Ohio" campaigner of Hocking county, and head of the Crystal Rock Gas Co., Inc., here, has obtained an appropriation of $25,000 from the state highway department for building and repairing roads leading to the scenic beauty spots in his county. This is in line with Mr. Lanning's efforts to get motorists to drive to that county's beauty spots over week-ends. How he increased his gasoline and motor oil sales last year by advertising these places is told in a story published in the March 20, 1929 issue of NATIONAL PETROLEUM NEWS, page 97.

Gray Joins de Florez

NEW YORK, June 22.—James W. Gray, formerly with The Texas Co., has joined the staff of Luis de Florez, refinery engineer who invented the de Florez vapor phase cracking process. The de Florez offices are at 2 Rector St., New York.

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The position must be filled by a sales executive of outstanding ability. He must be a man of mature judgment, thoroughly trained in marketing practice; a man who has a working knowledge of research technique, who is familiar with the technical aspects of advertising, and with the part advertising plays in a complete sales program.

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